Southern New Hampshire University

A Psychoanalysis of Galileo Galilei: Observed Personality Traits as Contributing Factors in His Condemnation by the Catholic Church in 1633.

A Capstone Project Submitted to the College of Online and Continuing Education in Partial Fulfillment of the Master of Arts in History

By

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September, 2018

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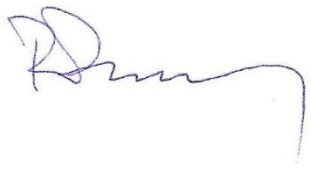

October 9, 2018

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Date

Abstract

Galileo Galilei, and his condemnation by the Catholic Church, termed the Galileo Affair, has been studied for over three hundred centuries, with the preponderance of the literature focusing on and directing animosity between the science and religious disciplines. Avenues of research have included the economic, religious, political, and social lenses; directing the focus everywhere but at Galileo himself. It is for this reason that we seek to psychoanalyze Galileo. A psychoanalysis of an individual examines what lies beneath the surface of their conscious behavior to determine what motivates that person, and why at times they behave counter to their own best interests. This research examines the observed personality traits of Galileo and how these traits directly impacted his career, condemnation, and more specifically the level of the severity of his sentencing using select excerpts of letters of correspondence between the years of 1606-1633. These documents were compiled into the accompanying digital exhibit, the *Psychoanalysis of Galileo Galilei*. Although this research primarily psychoanalyzes Galileo's personality, there are also connections drawn between Galileo's patronage networks and the political turmoil of the period.

Dedication to my Husband Joshua and Daughter Genevieve

A very heartfelt thank you to my husband, Joshua, who has steadfastly ensured that I had the time, and the quiet, to complete my research. Especially for having gone so far as to create a home office for me to "spread out" my research. I love you. For my daughter, Genevieve, thank you for allowing me to work during the day with the promises of quality time every evening for my baby girl. I love you to infinity and beyond! Thank you both for your unwavering support and understanding in this milestone in our lives; our journey continues.

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Acknowledgments

I would like to thank the Museo Galileo for their helpfulness in finding letters and other documents written to and from Galileo, and in obtaining copyrights if necessary for these same documents and any portraits of individuals used in the online exhibit. I must also acknowledge the Met Museum, Accademia Nazionale dei Lincei Roma, Uffizzi Gallery, and the Wellcome digital collection for the use of their open source portrait galleries that helped complete my exhibit.

The National Central Library of Florence's (BNCF) digital library was instrumental in this research. Their continued digitization projects have enabled all the letters of correspondence and manuscripts of Galileo to be accessed via the Museo Galileo. They have also freely given permission to use any of the material for educational purposes, such as this project.

List of Notable Figures[1]

Barberini, Cardinal Francesco – (1597-1679). Nephew of Maffeo Barberini (Pope Urban VIII), appointed as a cardinal by Pope Urban in 1623. He was also a friend and patron of Galileo. He served as one of the inquisitors conducting Galileo's trial in 1633, but was one of only three who did not sign the final sentencing.

Bellarmine, Cardinal Roberto – (1542-1621). Jesuit theologian who held the positions of professor of the Collegio Romano, archbishop, pope's theologian, and consultant to the Inquisition. He was a patron and advisor to Galileo in 1616 who gave Galileo the precept that ordered him to refrain from discussing the Copernican theorem as true.

Castelli, Benedetto – (1578-1643). Benedictine monk who studied with Galileo at the University of Padua. He received the mathematics chair at the University of Pisa in 1613 due to Galileo's patronage. Castelli specialized in hydraulics, and these skills were needed in Rome, where he was called by Pope Urban VIII. He was also a lifelong friend, patron, and client of Galileo.

Cesi, Prince Federico – (1585-1630). A wealthy and influential Italian aristocrat who was a patron of the arts and sciences; and of Galileo. He was the founder of the Lincean Academy of which Galileo was inducted.

Ciampoli, Giovanni – (1589-1643). Florentine intellectual and friend of Galileo. He was a member of the Lincean Academy and was also a clergyman from November 1614. For a short time he was the confidant of Maffeo Barberini (Pope Urban VIII) and served as his

[1] Stillman Drake, *Galileo at Work: His Scientific Biography* (Chicago: University of Chicago Press, 1978), 437-471; and Maurice A. Finocchiaro, *The Galileo Affair: A Documentary History* (Los Angeles: University of California Press, 1989), 313-324.

correspondence secretary upon succession to pope. He was banished by the pope from Rome for life.

Dini, Piero – (1570-1625). Influential Florentine intellectual who was well connected in Rome. He was also a friend and patron to Galileo.

Galilei, Galileo – (1564-1642). Professor of Mathematics at the University of Pisa and Padua. Court Mathematician and Philosopher to the Grand Duke of Tuscany 1610-1642. Discoverer of the phases of Venus, the face of the moon, the four satellites of Jupiter, and the laws of falling bodies. He was condemned by the Catholic Church for heresy in 1633.

Galilei, Michelangelo – (1575-1631). Younger brother of Galileo. He was a musician who worked in the German court. He was supported financially throughout his life by Galileo. His son Vincenzio stayed with Galileo for a time and was sent to school by Galileo with his own son, also named Vincenzio.

Galilei, Suor Arcangela – (1601-1659). Galileo's middle child, born with the name of Livia after Galileo's youngest sister**.** As she was born out of wedlock and unlikely to marry, she was sent to the San Matteo convent at age twelve and became Suor Arcangela at age sixteen.

Galilei, Suor Maria Celeste – (1600-1634). Galileo's oldest child, born with the name of Virginia after Galileo's younger sister. As she was born out of wedlock and unlikely to marry, she was sent to the San Matteo convent at age thirteen and became Suor Maria Celeste (as in celestial in honor of her father's discoveries) at the age of sixteen. She seems to be Galileo's confidant throughout her adult life, and the favorite child.

Galilei, Vincenzio – (1606-1649). Galileo's youngest child and only son. He was the only child to be legitimized. He married Sestilia Bochineri in 1629 from a prominent Florentine family.

Vincenzio was supported after his marriage by Galileo, who also raised his son, also named Galileo for a period of time during the plague outbreaks.

Giugni, Vincenzo – (1556 - 1622). Served in the Tuscan court under Ferdinand I. He was also the Tuscan Ambassador to France in 1601 and the Supervisor to the Medici artistic workshops. He was a longtime friend and patron to Galileo.

Guiducci, Mario – (1585- 1646). Florentine intellectual and close friend, patron, and former student and assistant of Galileo. He was also a member of the Licean Academy in 1625.

Guicciardini, Piero – (1560-1626). Representative of Tuscan Court to the French Court in 1609 and Ambassador to Rome in 1611. Friend and Patron to Galileo on behalf of Cosimo II.

Grassi, Orazzio – (1590-1654). Also known under his pseudonym of Lothario Sarsi. Jesuit Scholar and Professor of Mathematics at the Collegio Romano. Gave lectures in 1617 supporting Galileo's astronomical discoveries but became alienated by Galileo during the controversy of the comets in 1618.

Lorini, Niccolò – (1544-?). Dominican Friar who was favored by Grand Duke Ferdinand I. it was Lorini who initiated the denouncement against Galileo in 1615 to the Inquisition. He was not against Galileo or his science but was against his scriptural interpretations.

Pope Urban VIII – (1568-1644). Previously Cardinal Maffeo Barberini, a member of a very influential Florentine family; highly educated in the fields of philosophy, literature, and jurisprudence. Elected Cardinal in 1606, and Pope in 1623. Originally a great admirer of Galileo, but after the publication of the Dialogue in 1632, relations soured. He ordered the trial and approved the condemnation of Galileo in 1633.

Mayr, Simon – (1570-1624). Most well-known for his claim of discovery of the satellites of Jupiter before Galileo and for having his pupil Baldessar Capra publish a copy of the Galileo's instructions for his military compass with the claim that he had invented it.

Medici, Christine de Lorena – (1565 -1636). Grand Duchess of the Tuscan Court in Florence and mother to Cosimo II, married to Ferdinand I, Regent to Ferdinand II. Patron to Galileo under her husband Ferdinand I, son Cosimo II, and Grandson Ferdinand II.

Medici, Cosimo II– (1590-1621). Grand Duke of Tuscany 1609-1621. Patron of Galileo who gave him the title of Court Mathematician and Philosopher. The Medicean stars were dedicated to him (the moons of Jupiter) by Galileo to cement their patron client relationship.

Niccolini, Francesco – (1584-1650). Ambassador of the Grand Duke of Tuscany to Rome during the years of 1621-1643. A friend to Galileo who helped him throughout the entire trial proceedings in 1633.

Medici, Ferdinand II – (1610-1670). Grand Duke of Tuscany 1627-1670. Former pupil of Galileo and his Patron during his trial in 1633.

Priuli, Antonio – (1548-1623). Former patron of Galileo. He was the Podestà, the Venetian appointed governor of Pauda, who approved Galileo's confirmation as Professor of Mathematics in 1599. He also pushed for Galileo's salary increase to 10,000 *scudi* in 1609 along with tenure for life as a professor.

Scheiner, Christopher – (1573-1650). Also known by his pseudonym Apelles. Jesuit Scholar and the Professor of Mathematics at various universities. He disputed publicly with Galileo over priority of discovery of the sunspots and their interpretation.

Welser, Marc – (1558-1614). Banker who held municipal posts in the Augsburg (senate) from 1583 onward. Member of the Crusca Academy and of the Lincean Academy (both of which Galileo was also a member). Influential patron to Galileo during the *Sunspot Letters* debates.

Introduction

Galileo Galilei is a name that is synonymous with astronomy, science, but above all, with persecution. As a founding father of science, we place Galileo upon a pedestal wherein he cannot err. As such, we represent Galileo as a persecuted scientist, condemned by the Catholic Church in 1633 for contradicting their religious dogma. The available literature does not focus on Galileo himself to determine how his own actions contributed to his condemnation. This research examines the observed personality traits of Galileo and how these traits directly impacted his career, condemnation, and more specifically the level of the severity of his sentencing using select excerpts of letters of correspondence between the years of 1606-1633.

The accompanying digital exhibit, the *Psychoanalysis of Galileo Galilei*, proposed to be attached to the Virtual Psychology Museum, will showcase selected excerpted correspondence letters and manuscripts along with the applicable research narrative. The Virtual Psychology's mission statement of "advance[ing] the creation, communication and application of psychological knowledge to benefit society and improve people's lives," complements this exhibit's research by the application of psychoanalytic theorems. This is accomplished by applying psychoanalytic knowledge to promote the understanding of a historical figure and by extension, of the visitors to the digital exhibit themselves.[1]

A few of the proposed research questions that guided this research included; what *was* Galileo's personality type? Can this personality type, with today's modern understanding of the

[1] Ryan C. Martin and Georjeanna Wilson-Doenges, "The Virtual Psychology Museum," American Psychological Association, accessed August 7, 2018, http://www.apa.org/ed/precollege/ptn/2017/09/virtual-psychology-museum.aspx.

psyche, predict the reactions and the *tone* of voice we read in the correspondence between Galileo, patrons, friends, family, theologians, Cardinals, as time progressed? Do these observed traits explain the tendency to ridicule the intellect of others? How influential were Galileo's patrons to the molding of his personality, and to the advancement and destruction of his career? The answers to these questions, derived from the research findings, may help abate the ongoing debates between religious and scientific disciplines and promote a general understanding of the people involved, reducing the tendency to attribute their *individual* actions as characteristic of the institutions they represent.

Chapter I discusses the historiography of the Galileo Affair. Researchers canvas a vast range of lenses that include religious, political, economic, patronage, scientific analysis, as well as legality and due process of the law. Highlights of only the most prominent and prolific researchers of these categories and their associated findings are detailed. This comprehensive review of research thus far conducted on the Galileo Affair uncovered that the psychoanalytic lens used in this research has not been used and therefor offers new insights into this historic episode.

In Chapter II, elaboration of the methodological approach used during this research is highlighted via the enumeration of professional historian standards. These standards include the sourcing of the documents and paintings from reputable institutions, along with determinations of their authenticity. Travel restrictions and the "by default" need for the exclusive use of digital archives are demonstrated as critical to the completion of this research. Furthermore, the lack of fluency in the language of the documents established the integral use of translation sources from reputable Galilean scholars. Lastly, judicious examinations of the relevant psychological resources for the assessment of Galileo's personality traits are presented.

Chapter III considers the specialized audience for the digital exhibit, *A Psychoanalysis of Galileo Galilei*. The target audience includes psychologists, historians, college students, and interested adults aged 18 and up. Psychologists were chosen due to the psychoanalytic nature of the exhibit, historians for broadening historical interpretative lenses, and college students as the precursor to the psychologists and historians. Interested adults are more than likely the most substantial portion of the audience; they will be the individuals who visit the online exhibit first out of pure curiosity. The mission statement of the museum this exhibit is proposed to be attached to, the Virtual Psychology Museum, sponsored by the American Psychological Association, are also indicated.

Chapter IV explores the research findings and the specific project plan for the online exhibit. The selection of personal correspondence and Inquisitional trial documents are analyzed and interpreted through the use of psychological terms and definitions to determine the personality of Galileo. Only letters and documents that specifically show a personality trait, by definition, were used. Galileo was determined to most closely align with the Type-A personality. Other prominent traits included an ambitious nature, latent narcissistic tendencies, and patriarchal leanings. The digital exhibit, aligned with the Virtual Psychology Museum as stated previously, was created by use of the free software of Omeka. Paintings of Galileo's correspondents, images of letters, manuscripts, and discussion of the design layout, and structure of the pages are enumerated.

In Chapter V, the requirements for the development of the digital exhibit and research process budget are estimated. There is also a secondary budget for the digital exhibit's attachment to a specific museum, the Virtual Psychology Museum. In the former, the budgeting includes considerations of purchase of secondary source books, equipment, and research hours

performed to create the online exhibit. In the later, the future budgeting considerations of implementation of this exhibit to the Virtual Psychology Museum are assessed via applicable National Endowment for the Humanities grants programs and other fund raising opportunities.

Chapter VI reviews the recommendations and ethical concerns for this exhibit's development and inclusion into the Virtual Psychology Museum. Specifically, the clarification of provenance of the artifacts used in the exhibit and other Galilean artifacts in museums located outside of Italy. Obtainment of multiple version of the same documents for accurate translations are stressed as critical to the reduction of misinterpretations, and misrepresentations of the cultural mannerism of the period. Additionally, copyrights were also addressed for all items used in the exhibit and the research narrative to include Creative Commons, Public Domain, and permission for use of materials from the individual archives of the Museo Galileo, Biblioteca Nationale Centrale Firenze, Accademia Nazionale dei Lincei Roma, Wellcome Collection, and the Uffizzi Gallery. Lastly, the forms of evaluation used by museums for current exhibits are listed and the Summative and Critical are determined to be the most applicable for this exhibit.

Following Chapter VI is the summation of the conclusions that were derived from the research followed by two appendices. Appendix A catalogs screenshots of the entire digital exhibit, *A Psychoanalysis of Galileo Galilei*. Appendix B proffers the copyright authorizations from the aforementioned museums and archives.

Chapter 1: Historiography

The Galileo Affair has fascinated researchers for the last three hundred and seventy-eight years. As the author Dava Sobel so eloquently stated "no other process in the annals of canon or common law has ricocheted through history with more meanings, more consequences, more conjecture, more regrets' than Galileo's."[1] This event has been analyzed through a multitude of interpretational lenses, with an explosion of research in the past thirty years. The historiography on the Galileo Affair is exceptionally abundant and to discuss it in its minutiae would take up more than would be reasonable for this project. As such, only the most prominent historians of each lens used will be discussed.

A thorough legal procedural analysis of the Galileo's trail proceedings was performed by Thomas F. Mayer's in his books, the *Roman Inquisition: Trying Galileo,* and *The Trial of Galileo: 1612-1633.*[2] Mayer notes the differences between standard Inquisitional trials and that of Galileo's with background information on the role of the papacy, the Council of Trent, the Roman Inquisition, and Galileo's life works to help contextualize the legal documents as they stand. He also provides many trial documents heretofore not translated into English and are therefore invaluable for researchers worldwide.

An economic review of the Catholic Church as a market selling "credence goods," was performed exclusively by Kristina Terkun Castro in her article, "Religion as a Credence Good

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[1] Dava Sobel, *Galileo's Daughter: A Historical Memoir of Science, Faith, and Love* (New York: Walker & Co., 1999), 232.

[2] Thomas F. Mayer, *The Roman Inquisition: Trying Galileo* (Philadelphia: University of Pennsylvania Press, 2015), accessed August 20, 2018, http://www.jstor.org.ezproxy.snhu.edu/stable/j.ctt13x1p6s; and Thomas F. Mayer, *The Trail of Galileo: 1612-1633* (Toronto: University of Toronto Press, 2012).

and the Case Against Galileo."[3] Castro demonstrated that the Catholic Church acted like a marketplace in medieval Europe and described it as a "credence good." This is a good that sellers and buyers have no accurate way of verifying the measure of quality of said "goods."[4] Castro suggests that the church condemned Galileo out of a need to preserve its reputation, in its particular marketplace, in respect to competition from Protestant influences and the ongoing Thirty Years War between the two religious denominations. The Catholic Church was then in effect reasserting its dominion by declaring that they were the experts of how one *goes* to heaven.

Exploration of Galileo's patronage networks to explain his "social self-fashioning" was conducted by Mario Biagioli in his book *Galileo, Courtier: The Practice of Science in the Culture of Absolutism.*[5] Biagioli examines the patronage system of Galileo and shows how this system of clients and patrons was a form of social status that also affected ones political standing. This system conferred noble titles onto Galileo via his Medici patron, Cosimo II. Biagioli also discusses how the patronage of Galileo prodded his scientific inquiry, even making the conjecture that patrons created arguments, or challenges, similar to duels between nobles, to keep their status as patrons and clients high. This offered insight into Galileo's defense of Copernicanism as being instigated by this system of patronage but continued by himself to retain

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[3] Kristina Terkun Castro, "Religion as a Credence Good and the Case Against Galileo," *Interdisciplinary Journal of Research on Religion* 8 (January 2012): 4, accessed June 25, 2018, https://eds-a-ebscohost-com.ezproxy.snhu.edu/eds/pdfviewer/pdfviewer?vid=7&sid=4cfd8138-aa30-4fd1-bb1d-d575f9d0f3f3%40sessionmgr4006.

[4] Castro, "Religion as a Credence Good," 3.

[5] Mario Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago & London: University of Chicago Press, 1993).

a higher client status. Similar to how celebrities currently create "drama" to remain in the public eye.

Another important line of investigation has been the effect of the Thirty Years' War on the political stability of the Catholic Church, the Pope, and its repercussions in regards to Galileo's trial; extensively researched by David Miller in his article "The Thirty Years War and the Galileo Affair."[6] The Pope's traditional support of the Spanish throne, and its current support of the French throne caused political tension amongst Catholic leaders. Miller connects the stress this war caused on the stability of the office of the Pope, his political status, and his religious authority amongst European Kingdoms to the condemnation of Galileo with the pope's use of Galileo as an example of heretical punishment, thereby solidifying his religious authority.

The most substantial body of literature supports some version of science versus religion, or conflict versus harmony theorems, with the repeated accusation of religious authorities hindering scientific advancement. Edward Grant's article, "In Defense of the Earth's Centrality an Immobility: Scholastic Reaction to Copernicanism in the Seventeenth Century," discussed six contemporary scholars of Galileo's who defended the Earth's immobility.[7] Many of their arguments relied heavily on the five senses and scripture. Their theories and experiments were detailed and all were inconclusive towards proof of the immobility or movement of the Earth.

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[6] David Marshall Miller, "The Thirty Years War and the Galileo Affair," *History Of Science* 46, no. 1 (March 2008): 49, accessed May 4, 2018, https://eds-b-ebscohost-com.ezproxy.snhu.edu/eds/pdfviewer/pdfviewer?vid=2&sid=8a447da2-9944-4ccc-a8c9-9f37139fdc8f%40pdc-v-sessmgr01.

[7] Edward Grant, "In defense of the Earth's Centrality and Immobility: Scholastic Reaction to Copernicanism in the Seventeenth Century," *Transactions of the American Philosophical Society* 74, no. 4 (1984): 11, accessed May 25, 2018, http://www.jstor.org.ezproxy.snhu.edu/stable/1006444?pq-origsite=summon&seq=1#page_scan_tab_contents.

Annibale Fantoli, in his book titled *The Case of Galileo A Closed Question,* investigated contemporary Jesuit religious authorities, noting personal animosity towards Galileo. This personal animosity underlies the complexities of the *people* involved. The Jesuits scientific training and their dual roles as members of the cloth warred together to create opposition within themselves, and Fantoli suggests that this directly impacted Galileo's condemnation.[8]

J.L. Heilbron's article, "The Sun in the Church," staunchly advocated that the Catholic Church was a promoter of scientific inquiry, purporting the harmony theorem by describing the Church's use of a meridian line.[9] This use of the meridian line was necessary to obtain the exact date of Easter for celebration across the world at the same time. The scientists performing this research in the cathedrals validated portions of the Copernican theorem, something that could not be accomplished previously during Galileo's lifetime. Ivan Kauffman's article, "Facing the Inquisition: A Pope Seeks Pardon," discussed Pope John Paul II's commission of 30 experts that included ecclesiastical authorities, scientists, and historians to investigate Galileo's condemnation from 1978-1992; subsequently pardoning Galileo.[10] Similar findings were made by Maurice Finocchiaro in his article "A Galilean Approach to the Galileo Affair, 1609-2009."[11]

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[8] Annibale Fantoli, "*The Case of Galileo: A Closed Question*?" (Notre Dame: Notre Dame University Press, 2012).

[9] John L. Heilbron, "The Sun in the Church," *Sciences* 39, no. 5 (1999): 30, accessed May 19, 2018, http://ezproxy.snhu.edu/login?url=http://search.proquest.com.ezproxy.snhu.edu/docview/212620181?accountid=3783.

[10] Ivan J. Kauffman, "Facing the Inquisition: A Pope Seeks Pardon," *America,* 197 (Dec 2007): 25-26, accessed May 25, 2018, http://ezproxy.snhu.edu/login?url=http://search.proquest.com.ezproxy.snhu.edu/docview/209705809?accountid=3783.

[11] Maurice A. Finocchiaro, "A Galilean Approach to the Galileo Affair: 1609–2009," *Science & Education* 20, no. 1 (2011): 51-66, accessed May 25, 2018, https://snhu.illiad.oclc.org/illiad/illiad.dll?Action=10&Form=75&Value=20010.

David Lindberg and Ronald Numbers' article, "Beyond War and Peace: A Reappraisal of the Encounter between Christianity and Science," described "the ensuing struggles (which were not between Christianity and science, but rather, one must note, among Christians holding different views of proper relationships between Christianity and science)."[12] Descriptions of personal battles of individuals with their faith and scientific evidence by contemporaries of Galileo were used as examples to show that there was never outright animosity between science and religion, only between individuals. This is similar to the findings above by Annibale Fantoli.

It almost seems as if there really could be nothing left, and yet there is. No research literature was uncovered that relates to an analysis of what his medical malaises may have been. Galileo regularly reported on his poor health in multiple letters of correspondence to his friends and to his daughter over a span of two decades. It would be hard to diagnose Galileo via the said letters, yes, but this type of "retrospective diagnosis" has been performed on other historical figures.[13] There are also documents similar to medical records that detail his chronic illnesses to include the signed statement by three doctors given to Pope Urban VIII stating Galileo was too ill to travel to Rome for his inquisitional trial.[14]

Another gap lies in the analysis of the men themselves. Galileo and his correspondents are *people*, they are *human*, and as such, should be treated accordingly. As noted previously,

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[12] David C. Lindbergh and Ronald L. Numbers, "Beyond War and Peace: A Reappraisal of the Encounter Between Christianity and Science," *Church History: Studies in Christianity and Culture* 55, no. 3 (1986): 341, accessed May 25, 2018, http://www.jstor.org.ezproxy.snhu.edu/stable/3166822?pq-origsite=summon&seq=1#page_scan_tab_contents.

[13] Osamu Muramoto, "Retrospective Diagnosis of a Famous Historical Figure: Ontological, Epistemic, and Ethical Considerations," *Philosophy, Ethics, and Humanities in Medicine* no. 1 (2014): 150-175, accessed June 16, 2018, https://eds-a-ebscohost-com.ezproxy.snhu.edu/eds/pdfviewer/pdfviewer?vid=2&sid=4cfd8138-aa30-4fd1-bb1d-d575f9d0f3f3%40sessionmgr4006.

[14] William R. Shea and Mariano Artigas, *Galileo in Rome: The Rise and Fall of a Troublesome Genius* (Oxford, NY: Oxford University Press, 2003), 178.

there has been no psychoanalytic research performed on Galileo or any of the other key player's involved in his condemnation. This research aims to evaluate Galileo as *a* man, with faults like any other, who made choices based of personal preferences, internally driven factors, and social constraints. Once this gap had been uncovered as an avenue for research into the chosen subject of a psychoanalysis of Galileo Galilei, the process of source selection, evaluation, and compilation commenced.

Accompanying this research is a digital exhibit, and the selection of this as the project of choice required the ascertainment of whether there were any previous or current digital exhibits on the subject of Galileo to determine originality. An online search revealed only a few physical and digital exhibits, located at both the Museo Galileo and the National Air and Space Museum (NASM). The Museo Galileo is "the foremost international institution in the History of Science, combining a noted museum of scientific instruments and an institute dedicated to the research, documentation and dissemination of the history of science in the broadest senses."[15] Two digital exhibits were located in the Museo Galileo. The first was listed under the link for "Meet Galileo" entitled "Life," which uses videos in biographical form to detail Galileo's life in successive increments of time.[16] The second exhibit entitled "Works," compiles all of Galileo's published scientific works.[17] A physical exhibit located in room VII, "Galileo's New World," holds

[15] "Mission and Objectives," Museo Galileo, accessed September 8, 2018, https://www.museogalileo.it/en/about-us/795-mission-and-objectives.html?highlight=WyJtaXNzaW9uIl0=.

[16] "Life," Museo Galileo, accessed September 8, 2018, https://www.museogalileo.it/en/museum/explore/meet-galileo/37-life.html.

[17] "Works," Museo Galileo, accessed September 8, 2018, https://www.museogalileo.it/en/museum/explore/meet-galileo/38-works.html.

Galileo's scientific inventions as well as a few of his fingers and one tooth.[18] There is also an interactive exhibit room called "Galileo and the Measurement of Time," wherein visitors can operate replicas of some of his scientific instruments along with other instruments of science throughout time.[19] The Museo Galileo does not have any other digital or physical exhibit's that are based on Galileo.

The only other Galilean exhibits found are hosted at NASM, under their Space History department, Space Sciences. NASM follows the guiding directive of all Smithsonian Institutions, the Smithsonian Directive 600 (SD 600) which notes the mission statement of all Smithsonian Institutions as "the increase and diffusion of knowledge" to a broad audience.[20] NASM further refines this mission statement for their Space Science department as to "seek to collect artifacts and resources (oral history interviews and archival sources) that illuminate the lives and careers of major figures in space science."[21] Their current exhibits were perused to determine if there was an exhibit previously or currently dedicated to Galileo and what lens was used for these exhibits. There is currently a physical exhibit that only briefly mentioned two of the four most significant contributors to space discovery, Galileo and Kepler. There was also one digital

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[18] "Room VII: Galileo's New World," Museo Galileo, accessed September 8, 2018, https://catalogue.museogalileo.it/room/RoomVII.html.

[19] "Interactive Rooms: Galileo and the Measurement of Time," Museo Galileo, accessed September 8, 2018, https://catalogue.museogalileo.it/room/InteractiveRooms.html.

[20] Smithsonian Institution, "*Smithsonian Directive 600 Collections Management,"* (Washington D.C.: Smithsonian Institution, 2001), 2, accessed September 9, 2018, https://www.si.edu/content/pdf/about/sd/SD600andAppendix.pdf.

[21] Smithsonian Institution, "*National Air and Space Museum Rationale: Aeronautics Department, Space History Department, Archives Department,"* (Washington D.C.: National Air and Space Museum, 2016), 256.

exhibit, “Exploring the Planets,” that had a subpage dedicated to the astronomical discoveries made by Galileo.[22]

These exhibit’s, either physical or digital, that included Galileo thus far found refer only to his life in a biographical way, his works, and his scientific discoveries. None relate to a psychoanalysis of him as an individual, and therefore the accompanying digital exhibit for this project is original and satisfies the requirements for Southern New Hampshire Universities public historian degree completion. In the next chapter we will detail the specifics of the methodology in the conduction of this research and the creation of the associated digital exhibit.

[22] “Exploring the Planets,” Smithsonian National Air and Space Museum, accessed September 8, 2018, https://airandspace.si.edu/exhibitions/exploring-the-planets/online/discovery/galileo.cfm.

Chapter 2: Methodology

Selection of the research topic the psychoanalysis of Galileo Galilei extrapolated from previous research conducted during undergraduate studies at the University Of Maryland University College. The "drama" that surrounded Galileo's career, his scientific discoveries and his interpretations of how science and religion *should* interact, but most especially, his condemnation by the Catholic Church in 1633, were fascinating. As discussed in the historiography chapter, many various lenses have been used to interpret his life, career, and condemnation to include the economic, religious, political, and social lenses.

One lens that no search query could produce results for was that of the psychological lens. This lens seemed to be an appropriate one to apply to Galileo as the other lenses directed the focus away from Galileo; looking from the outside inward. A psychoanalysis would provide the viewpoint from the inside looking out. It would determine not what outside forces influenced his condemnation, but what *he* had done to facilitate that decision.

Psychoanalysis is a lens that is rarely used by historians for research purposes. The more remote a historical figure is, the less reliable a psychoanalysis is conjectured to be, and so it is shied away from, considered taboo. A psychoanalysis of an individual examines what lies beneath the surface of their conscious behavior to determine what motivates that person, and why at times they appear to behave counter to their own best interests. It is the observation of traits and characteristics of one's personality that we applied to Galileo.[1]

[1] "About APA: Our Work," American Psychological Association, accessed August 8, 2018, http://www.apa.org/about/index.aspx.

Once the research topic and the lens were chosen the research process began. When performing scholarly research, historians must first and foremost source primary documents and consult the "the ever-expanding body of secondary literature" that places those documents in a broader context.[2] Historians must subject primary source materials to critical scrutiny, thereby determining their legitimacy and authenticity, *and* they must also be on the lookout for historical and modern forgeries.[3] Evaluations of provenance, consistency with known facts of the period, *paleography* (study of ancient writings), *philology* (study of development of language), *diplomatics* (form of writing of institutions), and the use of technical specialists (evaluate materials used in document) can determine the authenticity of primary sources.[4]

Interpretation of what Galilean sources say relies heavily on the translations of these works. Translations have the inherent risk of losing the "different levels of meaning [that] may have been [originally] embedded" in the text. Mastering the "characteristic turns of phrase and the appropriate technical vocabulary" was essential to accurate interpretations of these compositions.[5] Next, historians must ascertain whether the sources are reliable. Were the author's *participants* or *witnesses* of the events they described? Was their information second hand, gossip? What were their prejudices, bias, and their patronage allegiances? The answers to these questions provide insight into the complexities of the relationships between Galileo and his correspondents.

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[2] "Statement on Standards of Professional Conduct," American Historical Association, accessed June 8, 2018, https://www.historians.org/jobs-and-professional-development/statements-standards-and-guidelines-of-the-discipline/statement-on-standards-of-professional-conduct.

[3] John Tosh, *The Pursuit of History: Aims Methods and New Directions in the Study of History*, 6th ed. (New York: Routledge, 2015), 102.

[4] Tosh, *Pursuit of History*, 103.

[5] Ibid., 103.

Historians must also evaluate their sources based on their context in a string of correspondences relating to a single event. In the case of the Roman Inquisitional files, they were examined together with other documents from the same collection, or dossier. For Galilean personal letters of correspondence, they were evaluated by correspondent, by date, and by subject matter. Historians must also be wary of published materials of the period of study, as they "nearly always represent a selection, whose publication was intended" to suit ones particular ambitions, such as the publicity of the condemnation decree given out to all Italian cities detailing Galileo's sentencing.[6] Obtaining multiple versions of these documents is vital for comparison to uncover any "inaccuracies and [or] distortions," as well as corroborate the interpretations of other historians.[7] Applications of the above standards are also required for secondary literature.

Historians are most importantly charged with the presentation of "competing interpretations," along with evidence that supports the historian's particular line of questioning. Omitting these opposing views hinders the quest for truth and reduces the credibility and integrity of the historians who present such narrow views. History written with the acknowledgment of opposing interpretations *will* provoke thought, discussion, and internalization of the presented information, further "enrich[ing] our collective understanding of the past" in its entirety.[8] This will also encourage "subsequent investigations of the same subject," in the hopes that new questions will be asked and answered about the past.[9] The

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[6] Ibid., 109.

[7] Ibid., 110.

[8] "Statement on Standards of Professional Conduct."

[9] Ibid.

"discovery, exchange, interpretation, and presentation" of information by historians should also contribute "in a fair-minded way to ongoing scholarly and public debates" in regards to what these documents can reveal about the past.[10]

Time and travel constraints, language barriers, the plethora of material, and the complexity of Galileo's work requires selectivity in the use of source materials. This selectivity could result in leaving out texts and letters that might have been successfully incorporated into this line of research. Those that were selected were authenticated by the National Central Library of Florence, the Museo Galileo, and the Archive of the Congregation for the Doctrine of the Faith (henceforth referred to as ACDF), as well as previous historians.

Galilean correspondence has "a complicated archival history, involving multiple episodes of both intentional suppression and accidental loss of key documents" that convolute our interpretation of the events.[11] An example of one such complication is that of the Roman Inquisitional 1616 precept, given to Galileo by Cardinal Bellarmine, accused of being a contemporary forgery for lacking conformance to intuitional, or *diplomatics* standards. The absence of a signature led to questioning its validity during the trail of 1633, and debates still rage today over its authenticity, as illustrated by Thomas F. Mayer's article, "The Roman Inquisition's Precept to Galileo (1616)."[12] Mayer determines that the precept is most likely an authentic document based off of the documents consistency with other records of the same

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[10] Ibid.

[11] "Galileo Correspondence Project," Stanford University, accessed May 29, 2018, http://galileo.stanford.edu/.

[12] Thomas F. Mayer, "The Roman Inquisition's Precept to Galileo (1616)," *The British Journal for the History of Science* 43, no. 3 (2010): 327-51, accessed June 9, 2018, http://www.jstor.org.ezproxy.snhu.edu/stable/40962539.

period for inquisitional meeting minutes and other legal documentation in the dossiers for individual case files.

Two works previously unattributed to Galileo, the *Dialogue of Cecco di Ronchitti* and *Considerations of Alimberto Mauri*, exemplify Galileo's open criticism of those opposed to his scientific conclusions.[13] Noted Galilean Scholars Stillman Drake and Mario Biagioli have authenticated these works as Galilean due to the style of the writing itself, its subject matter, and allusions to personages who were opposed to Galileo's discoveries. These two works epitomize the egotistical, narcissistic, condescending personality traits that have been attributed to Galileo by his contemporaries. These traits will be discussed further below in the Research chapter.

Great use of Mario Biagioli's *Galileo: Courtier*, has been made for sourcing appropriate letters of correspondence.[14] Although Biagioli analyzed Galileo's correspondence for patronage networks, they were reevaluated for tone, actions, and personality traits. By noting the "characteristic turns of phrase," and deciphering what was typically required of "courtly" greetings, we ascertained when Galileo's behavior ran counter to those observances.[15] The detected personality traits were corroborated with psychological definitions of each trait, personality type, and effects thereof.

Again, travel restrictions, and time constraints for research requests from archives have relegated this research to that of what is available digitally. This leaves prominent Galilean archives, such as the Vatican Archives, and the ACDF unavailable for research. The Vatican

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[13] Galileo Galilei, *Galileo Against the Philosophers: In His Dialogue of Cecco di Ronchitti and Considerations of Alimberto Mauri*, trans. Stillman Drake (Toronto, Canada: Zeitlin & Ver Brugge, 1976).

[14] Mario Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago & London: University of Chicago Press, 1993).

[15] Tosh, *Pursuit of History*, 102.

Archives are extensive, and few of their holdings have been digitized and made available to anyone besides established researchers. Sadly when this archive was ransacked under Napoleon, thousands of documents were lost, maybe even ones key to our complete understanding of the Galileo Affair. Searching their archives physically takes time, and they are generally understaffed, requiring advanced requests to be processed that can take weeks, up to months for a response. The same can be said for the ACDF. Luckily, every document related to Galileo's inquisitional trial proceedings, found in the ACDF, has been translated and used by previous Galilean scholars and are on hand via hard copy books or have been located from reputable sources online.

The preponderance of original Galilean correspondence has been sourced via the Museo Galileo's digital library, which in turn has received many of their digital copies via the National Central Library of Florence (Biblioteca Nationale Centrale di Firenze (BNCF)).[16] The BNCF also houses the digital collections of the Museum of the History of Science and the Academy of Crusca of which Galileo was a member. The BNCF and the Museo Galileo are two of the most referenced repositories for Galilean information. They have done a remarkable job in their digitization efforts for this collection, making it freely accessible to anyone who visits their website. This has rendered what would have been an impossible subject to research physically into one that has been relatively streamlined, especially with links to related subjects, persons, and their location source.

Documents were also accessed via the Internet Archive, who in turn sources their digital content from universities, museums, and private collections. Most Galilean letters of

[16] Antonio Favaro, *Le Opere di Galileo Galilei*, Vol I-XX, Museo Galileo, accessed June 11, 2018, http://bibdig.museogalileo.it/Teca/Viewer?an=0000000328457&lang=en.

correspondence and works were compiled, translated into Italian from Latin if needed, by Antonio Favaro, in the National Edition of Galileo's works, *Le Opere di Galileo,* volumes I-XX, between the years of 1890-1909.[17] These volumes are available on the Internet Archive as well as from the Museo Galileo.

The use of translated Galilean correspondence and publications from previous prestigious researchers were categorized as primary sources due to language barrier constraints. Translations were obtained via Stillman Drake, William Oshea, Dava Sobel, Maurice Finocchiaro, and Mario Biagioli, and Mariano Artigas. Each of these Galilean scholars occasionally excerpted the same letters and translated them in their works, agreeing remarkably with each other on choice of words. Multiple translations that agree with each other lend credence to the interpretations and ensure there is little to no loss of original intent by the creators of the documents. Letter excerpts from correspondents were authenticated and although biased by those who wrote them, relate the events as they occurred. They are our "eyewitness" observations, opinions, consensuses, of personality traits and ongoing political turmoil, as well as who was a patron to Galileo at any given time.

Primary source selections have followed that of previous historian's research. Antonio Favaro collected as many Galilean works as possible and consolidated them into *Le Opere di Galileo* and although Favaro's *Opere* is often utilized in other historian's research, he did not include *everything* that Galileo wrote.[18] He used similar principles to what we historians follow

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[17] Galileo Galilei, Gal. 23 – II, Galileo. I.13, Galilei Galileo. 13, Lettere Familiari, Biblioteca Digitale, Biblioteca Nazionale Centrale di Firenze, Museo Galileo, accessed June 11, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=000000019400&lng=en.

[18] Antonio Favaro, *Le Opere di Galileo Galilei*, vol I-XX, Museo Galileo, accessed June 11, 2018, http://bibdig.museogalileo.it/Teca/Viewer?an=0000000328457&lang=en.

today in collecting and evaluating sources. A few works were not attributed to Galileo as they were written under a pseudonym and Favaro was unable to determine authorship. Some of Galileo's writings were categorized as juvenile but have recently been determined to have been written while Galileo held University postings. Multiple works were not utilized due to their incomplete nature, such as scientific notes and incomplete manuscript works. Other works were not included because they were unavailable during compilation, located in archives that were closed to the public at the time or misfiled in other archives and rediscovered only within the last thirty years.

Mario Biagioli has written multiple books and articles on the patronage connections of Galileo and how they impacted his career. His books entitled *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* and *Galileo's Instruments of Credit: Telescopes, Images, Secrecy,* has the most comprehensive evaluation of the connections of patronage to the advancement of Galileo's scientific career aspirations. William Shea and Mariano Artigas have also written many useful articles and books with translated materials. Of note has been their criticism of other written interpretations of Galileo, his life, career, and trial in *Galileo Observed*.

Dava Sobel's book, *Galileo's Daughter: A Historical Memoir of Science, Faith, and Love,* has been useful for its unique perspective of Galileo as a father and patriarch who always found the means to support his family, even in the midst of trial proceedings. Mario Finocchiaro's, *The Controversy on the Comets of 1618*, and *The Trial of Galileo: Essential Documents*, *Retrying Galileo: 1633-1992* have been used extensively as translation cross referencing sources.

Each of the above mentioned authors evaluates a different viewpoint that directed the research into letters of correspondence and published manuscripts, eliciting connections between

patrons, the trial, and the personality traits of Galileo. This eliminated the need to cast about blindly and reduced the literature to manageable levels. Each viewpoint must be taken with a grain of salt, even as highly prestigious scholars, leaders in Galilean research, they are still human, biased, and strongly advance their points; some more so than others.

Psychoanalytic sources, used for the proper terminology and definitions of personality traits, have also been sourced for connections between the observed personality traits and behavioral actions. Galileo's ambitious nature can be understood through the article "On the Value of Aiming High: The Causes and Consequences of Ambition," wherein a testing model was developed to predict educational level attainment, occupation prestige, and income. [19] Galileo's tendency to treat other scientists and theologians as idiots can be understood through the article "Finding Middle Ground Between Intellectual Arrogance and Intellectual Servility: Development and assessment of the Limitations-Owning Intellectual Humility Scale."[20] Case studies and scales developed may not be varied enough or have enough subjects for the conclusions associated in the articles to be confirmed. Psychology is an ever changing field and what is concurred with today may not be with further understanding of the psyche and behavioral traits in the future.

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[19] Timothy A. Judge and John D. Kammeyer-Mueller, "On the Value of Aiming High: the Causes and Consequences of Ambition," *Journal Of Applied Psychology* no. 4 (2012): 758-775, accessed June 4, 2018, https://eds-b-ebscohost-com.ezproxy.snhu.edu/eds/pdfviewer/pdfviewer?vid=2&sid=a0eda05d-dd9d-482b-b1c7-b128303625ba%40sessionmgr103.

[20] Megan Haggard et al., "Finding Middle Ground Between Intellectual Arrogance and Intellectual Servility: Development and Assessment of the Limitations-Owning Intellectual Humility Scale," *Personality And Individual Differences* 124, (April 1, 2018): 184-193, Accessed June 15, 2018, https://www-sciencedirect-com.ezproxy.snhu.edu/science/article/pii/S0191886917307286?_rdoc=1&_fmt=high&_origin=gateway&_docanchor=&md5=b8429449ccfc9c30159a5f9aeaa92ffb&ccp=y.

The research process was intermittently accomplished over a period of about two years. This topic was used to complete the required coursework whenever possible during the pursual of the master's degree program for the public historian with Southern New Hampshire University. This allowed a more streamlined process when the research seminar and the capstone courses were taken. The writing process itself took about ten weeks to complete. This period also included the creation of the digital exhibit project that accompanies this research. The writing process was structured as prescribed by the institution. The digital exhibit was another matter entirely too appropriately fill in all the correct portions of metadata for each object in the exhibit collection.

While sourcing letters from correspondents of Galileo that highlighted their opinions of his personality, and those of Galileo describing or "presenting" his personality traits, it was decided to structure the exhibit by personality trait. Only the most prominent traits were used so as to stay within the scope of the project for completion deadlines. The most closely associated personality type was determined to be that of the Type-A personality and it is the first subpage following the introductory panel.

The most prominently observed personality traits were determined to be: ambition, narcissistic tendencies, and patriarchal leanings; each with their own subpage. The letters and comments for each correspondent were positioned chronologically within each personality traits subpage. Every document imaged in the exhibit is the actual original document, with the accompanying narrative utilizing the translation source. Portraits of each correspondent were added to enhance the associative process for visual learners of who was "speaking" at the time and attached to short biographies of each of the correspondents to help facilitate the understanding of why these correspondents were important to Galileo, to his career, and to his

condemnation. These are located on another subpage entitled *Correspondent Biographies*. Images of paintings, manuscripts, and original letters in the digital *Psychoanalysis of Galileo Galilei* exhibition were designated as primary sources. The exhibitions design, legibility, contrast, and visual appeal for the selected targeted audience's inclusion of young adults, historians, and psychologists, aged 18 and up was of the utmost concern.

After the determinations and selection of a research topic and research lens were established, the research process commenced as outlined above. Professional historian standards were enumerated and adhered to that included, but were not limited to, the authentication of sources and their relevance, accurate translations of these sources, and the sourcing and use of reputable repositories. Simultaneously with the research process was the creation of the digital exhibit. The design layout of the digital exhibit was described and assures the most logical flow for understanding the research topic. The digital exhibit's specific design was determined by the needs of the target audience which will be elaborated on in detail in the following chapter.

Chapter 3: Specialized Audience

This digital exhibit, the *Psychoanalysis of Galileo Galilei,* would most likely be associated with the American Psychological Association's (APA) virtual museum, aptly titled the "Virtual Psychology Museum."[1] The APA describes their mission as "to advance the creation, communication and application of psychological knowledge to benefit society and improve people's lives."[2] They accomplish these aims by:

- Encouraging the development and application of psychology in the broadest manner.
- Promoting research in psychology, the improvement of research methods and conditions and the application of research findings.
- Improving the qualifications and usefulness of psychologists by establishing high standards of ethics, conduct, education and achievement.
- Increasing and disseminating psychological knowledge through meetings, professional contacts, reports, papers, discussions and publications.[3]

The Virtual Psychology Museum is "designed to feel like a physical space and to give visitors the sense that they are actually at a museum."[4] The museums begins with an interactive

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[1] Ryan C. Martin and Georjeanna Wilson-Doenges, "The Virtual Psychology Museum," American Psychological Association, accessed August 7, 2018, http://www.apa.org/ed/precollege/ptn/2017/09/virtual-psychology-museum.aspx.

[2] Martin and Wilson-Doenges, "Virtual Psychology Museum."

[3] "About APA: Our Work," American Psychological Association, accessed August 8, 2018, http://www.apa.org/about/index.aspx.

[4] Martin and Wilson-Doenges, "Virtual Psychology Museum."

map that has five exhibition halls and a "great hall" that encompasses the "most significant contributions to the field" of psychology.[5] These five halls are dedicated to different subfields of psychological study: Social Psychology, Neuropsychology, Clinical and Counseling Psychology, Environmental Psychology, and Careers in Psychology. The *Psychoanalysis of Galileo Galilei* digital exhibit would nest under the subpage of "Sigmund Freud: The Founder of Psychoanalysis" as another subpage in and of itself showing the application of this evaluation process.[6]

The Virtual Psychology Museum presents exhibits for those who have an interest in psychology. It consolidates various psychology resources found across the internet into one central location. The museum states that it "was created to offer a reliable source of information for anyone who wants to learn more about the fascinating field of psychology."[7] This museum was created by two psychologists, Ryan C. Martin, Ph.D., and Georjeanna Wilson-Doengers, Ph.D., to "curate those resources to provide reliable information to students, teachers and others."[8] The targeted audience for the digital exhibit, the *Psychoanalysis of Galileo Galilei,* will include young adults, historians, and psychologists, aged 18 and up. The concepts of psychology are too advanced for younger audiences and therefore this group was not selected.

The audience is crucial to the design of any exhibit, whether it be a physical or digital exhibit. "Understanding the public's interests and concerns, likes and dislikes, needs and wants,

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[5] Ibid.

[6] Ryan C. Martin, "Sigmund Freud: The Founder of Psychoanalysis," Virtual Psychology Museum, American Psychological Association, accessed August 8, 2018, http://psychmuseum.uwgb.org/clinical/freud/.

[7] Martin and Wilson-Doenges, "Virtual Psychology Museum."

[8] Ibid.

is of critical importance in providing successful services in developing successful museums," through the "participation and involvement" of it users in the design and development of exhibit's.[9] Current trends in American society involve an increased interest in personality assessments, especially amongst prospective employers. There are a plethora of personality test out on the World Wide Web (a quick Google search retrieved 119,000,000 results) that allow employers to evaluate their prospective hires. There are multiple television series that portray the use of personality traits and or characteristics to find criminals and determine their motives such as *Lie to Me* (99,710 reviewers), *Sherlock Holmes* (over 2 million reviewers in its many various interpretations), *The Mentalist* (146,330 reviewers); and to a lesser degree *House* (357,234 reviewers), and *Lucifer* (119,214 reviewers).[10]

This vested interest in the understanding of personality as it applies to oneself and to others is a "market" that is relatively untapped in regards to museums. No museum, whether a physical entity or digital one, has an exhibit that assesses the personality of any particular individual. Therefore this online exhibit would appeal to the current public who would be "prepared to pay for [the exhibit] either directly or indirectly or through their taxes" for its continued maintenance.[11]

Social media plays a large role in the online experience of any museum, and the generation of users most likely to utilize social media are the millennials and post-millennials, those born after 1981. These are the college aged students, 18-25, and bulk of the workforce, 18-

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[9] Timothy Ambrose and Crispin Paine, *Museum Basics* 3rd ed., (New York: Routledge, 2012), 26-27.

[10] "Lie to Me," IMDb, accessed August 9, 2018, https://www.imdb.com/title/tt1235099/.

[11] Ambrose and Paine, *Museum Basics*, 27.

37, who typically use "various mobile communications devices (MCDs) not only to document their daily activities but to share their views, thoughts, and images online," as consumers and reviewers.[12] The Virtual Psychology Museums caters to this need by hosting links on their webpage article about their museum to share their experience with friends on Facebook, Twitter, LinkedIn, and Google+ social media platforms.[13]

What is vital for museums to understand is that this age group "now pays greater attention to the visual elements of [the] settings" of these exhibit spaces.[14] This means to have a successful online exhibit, it must be visually stimulating, including the use of video, graphics, color, and sound. The Millennials also seek out exhibit's and experiences "that apply to their life," and they "share new information with their [social] networks" about what they have learned. If museums are to keep abreast of this technological and social media change, "they need to understand how this audience accesses, stores, and shares both text and image-based information" with each other and the rest of society.[15]

Conversely, studies continue to show that older users, aged sixty and up, prefer not to use digital media. In the article "Older Audiences in the Digital Media Environment," by Galit Nimrod, a study was conducted via a cross-European survey of 1,039 internet users aged sixty

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[12] Karen Hughes and Gianna Moscardo, "Connecting With New Audiences: Exploring the Impact of Mobile Communication Devices on the Experience of Young Adults in Museums," *Visitor Studies* 20, no. 1 (January 2017): 33, accessed July 21, 2018, https://eds-b-ebscohost-com.ezproxy.snhu.edu/eds/pdfviewer/pdfviewer?vid=3&sid=960dbc21-59b9-45b4-a199-c816b49433e4%40sessionmgr101.

[13] Martin and Wilson-Doenges, "Virtual Psychology Museum."

[14] Hughes and Moscardo, "Connecting With New Audiences," 35.

[15] Ibid.

and up across nine countries.[16] The result indicated that these users were more inclined to use the traditional methods of mass media rather than that of social media and specifically preferred synchronous media (television and radio) to asynchronous mass media (books and newspapers).[17] The study also showed that higher levels of education and income per user resulted in higher usage of digital media.[18] This portion of the target audience is harder to reach by means of the Virtual Psychology Museum, but its layout as a physical museum with exhibit halls, maps, and advertising that includes traditional means, such as flyers, brochures, radio advertisements, and newspaper advertisements, would effectively market this exhibit to this audience.

Digital exhibits are accessible to anyone who is able to obtain an internet connection. Many businesses offer free Wi-Fi such as coffee shops, restaurants, museums in general, educational establishments, and even shopping venues. Anyone who has access to a mobile device; smartphone, laptop, desktop computer, or tablet may view this exhibit. The typical objection against visitation of a physical museum, the cost of admission, is negated with a free digital exhibit. The hours of operation, and the complaint of never having the time or leisure to *visit* a museum, is eliminated with a digital exhibit that is accessible twenty-four hours a day, seven days a week. This allows for visitors to explore the exhibit at their own pace, whenever they wish.

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[16] Galit Nimrod, "Older Audiences in the Digital Media Environment," *Information, Communication & Society* 20, no. 2 (February 2017): 233, accessed July 31, 2018, https://www-tandfonline-com.ezproxy.snhu.edu/doi/abs/10.1080/1369118X.2016.1164740.

[17] Nimrod, "Older Audiences in the Digital Media Environment," 236.

[18] Ibid., 244.

The psychoanalysis of Galileo is a fresh approach to an exhaustively researched historical event and figure that will interest historians and psychologists who may not have thought to see the Galileo Affair from this perspective. It may entice them to evaluate other prominent historical figures with this research lens. This exhibit hopes to spark an inquisitive fire in someone who will relate to Galileo, the *man*, rather than Galileo the *icon*. Visitors will be attracted to the exhibit via the names of Galileo, the Medici's (due to their Medici name and current popular television drama series about them, and video games of their Florentine rule such as *Assassins Creed*), and also to Pope Urban VIII as a prominent religious historical figure himself.

They will also be enticed by the natural intrigue of needing to understand why a person behaves a particular way, no matter the era, especially when there is "drama" associated with them, as was the case with Galileo. Visitors will learn from this exhibit as "learning is not just about facts –it also includes experiences and emotions;" all of which are directly influenced by the visitors own personalities.[19] The audience will "click" on this digital exhibit because it intrigues them, "because they want to," because it is new and provides a window of understanding not only to a prominent historical figure, but also of themselves.[20]

The audience shaped the development of the online exhibit by limiting the use of overly technical language while introducing psychological terms and forms of analysis. Also, the design of the exhibit was structured per the general advice of using "methods such as screen-reader-accessible web design[s], adjustable font and color contrast, and high-contrast images" for the

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[19] Ambrose and Paine, *Museum Basics*, 60.

[20] Ibid., 60.

individual panels of digital exhibitions.[21] The font sizes in this exhibit are relatively larger and in bold to ease the strain on visitors who may have sight deficiencies. There is a sharp color contrast that incorporates black backgrounds with white text. The portraits and original letters stand out on the black backdrops with the ability to click on the image to obtain a larger one.

The panels and labels themselves were kept as short as possible to convey the information necessary and encourage visitors to the exhibit to read on. Paintings of each of Galileo's correspondents were used to help associate "speakers" with their written comments. The subpages were organized by personality trait, and in each subpage, the progression of the traits was detailed chronologically. The correspondents' paintings are accompanied by a short biography to facilitate visitors understanding of who the person was and why they were important to Galileo's career. These are located on a separate biography subpage for reference purposes and to streamline the personality trait pages. Letters to and from these individuals were excerpted for the digital exhibit and placed on the appropriate trait page. Only prime examples of Galileo's personality traits were showcased to retain audience attention and spark interpretational debates about the psychoanalytic determinations and what was "said" by a particular correspondent.

The incorporation of this research into a digital exhibit attached to the Virtual Psychology Museum was determined as the most appropriate per the discussion above. Audience-specific considerations that determined the digital exhibit's layout and design, such as visual appeal, contrast, ease of navigation, and logical and streamlined panels and labels were also noted. The

[21] Ibid., 111.

following chapter will expand upon the research findings narrated in the digital exhibit panels and dive deeper into the specifics of the layout and design of the digital exhibit.

Chapter 4: Topic Research and Project Plan

Current Galilean historiography consists primarily of the analysis of his trial, termed the Galileo Affair, from a science versus religion standpoint. Specific emphasis has traditionally been placed on the animosity between theologians, the Catholic Church, and Galileo in regards to the Copernican theory and scriptural interpretations. The focus has centered on Galileo's treatment during the inquisitional trial proceedings, his subsequent condemnation, and the suppression of his scientific works for one hundred years after his death. The literature lacks a comprehensive analysis of Galileo's personality, a psychoanalysis, to determine Galileo's role in his condemnation by the Catholic Church in 1633. Researchers have hinted at their perceptions of Galileo's personality in many other works such as that of Emerson T. McMullen's "Galileo's Condemnation: The Real and Complex Story," and William R. Shea and Mariano Artigas' *Galileo in Rome: The Rise and Fall of a Troublesome Genius,* but none pursued this line of research in detail, or with clinical theorems and terminology, only opinions.[1]

No previous researcher has approached the Galilean Affair through the lens of psychoanalysis. This is a relatively new line of research, and is considered by some as unreliable. Psychanalytic interpretations of history are by their very nature highly individualistic and subjective. The claim for not using this lens is that no two historians or researchers of any kind will interpret the primary source materials in the same way. This is true of any interpretation of a collection of data, and that is precisely how we provoke discussions and further research.

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[1] Emerson T. McMullen, "Galileo's Condemnation: The Real and Complex Story," *Georgia Journal of Science, 61*(2), (2003): 90-106, accessed June 2, 2018, http://go.galegroup.com.ezproxy.snhu.edu/ps/i.do?p=ITOF&u=nhc_main&id=GALE%7CA105438367&v=2.1&it=r&sid=ebsco; and William R. Shea and Mariano Artigas, *Galileo in Rome: The Rise and Fall of a Troublesome Genius* (Oxford, NY: Oxford University Press, 2003).

Therefore this argument is unacceptable for the abandonment of the use of psychoanalysis as a form of historical interpretation.

This psychoanalysis of Galileo will revitalize an interpretational lens with which historians have shied away from. Highlighting historical figures like Galileo as individuals, as humans, making them approachable and understandable, will bring such illustrious figures down off of the pedestals that *we* have placed them upon. Uncovering trends and correlations between Galileo's displayed personality traits and major episodes in his career will determine to what degree he may have facilitated the pursual of condemnation by the Catholic Church in 1633. This type of evaluation will further our understanding of the individuals themselves, and the societal constraints in which they lived in.

What *was* Galileo's personality type? Can this personality type, with today's modern understanding of the psyche, predict the reactions and the *tone* of voice we read in the correspondence between Galileo, patrons, friends, family, theologians, Cardinals, as time progressed? Do these observed traits explain the tendency to ridicule the intellect of others? How influential were Galileo's patrons to the molding of his personality, and to the advancement and destruction of his career? This research proposes that Galileo's condemnation *was* a result of his personality, along with the untimely demise of the influence of multiple patrons. Transcripts of the 1633 trail proceedings, 1616 admonition, Papal condemnation, Galileo's recantation, selected letters to cardinals, theologians, patrons, and from Galileo's daughter, Suor Maria Celeste, were used to reconstruct and track Galileo's personal networks and explicitly displayed personality traits.

Type-A Personality

Analysis has determined that Galileo's overall personality type most closely aligns with what psychologists refer to as a Type-A personality, generally "characterized as [an] ambitious, impatient, aggressive, and competitive" individual. [2] This is evidenced by comments made in multiple letters about Galileo's impatience with waiting for anything in general, from the attainment of prestigious court positions to extended publication timelines. He was also widely perceived as aggressive with those individuals whom he considered to be idiots, typically scientists or religious leaders in regards to their doctrine or contradictory scientific hypotheses. Galileo's competitive nature is discernable from his various disputes about claims of priority of discoveries with rival scientists and his penchant for debating publicly and passionately for his ideas.

One example of Galileo's impatience can be seen with his perceived delay in being accepted as a member of the Tuscan court as their mathematician and philosopher in his June 25, 1610, letter to Vincenzo Giugni. He writes that "whenever possible, please make sure that Your Most Serene Highness would not delay the flight of fame by taking an ambiguous stand about what he has seen many times himself—something that fortune reserved to him and denied to everybody else."[3] Galileo was referring to Grand Duke Cosimo II's months-long deliberation of

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[2] Bradley R. A. Wilson, "Type A Behavior Pattern," *Salem Press Encyclopedia Of Health* (2013): 1-4, accessed June 9, 2018, https://eds-b-ebscohost-com.ezproxy.snhu.edu/eds/detail/detail?vid=7&sid=960dbc21-59b9-45b4-a199-c816b49433e4%40sessionmgr101&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=93872316&db=ers.

[3] Antonio Favaro, *Le Oepre di Galileo Galilei*, Vol X, no. 339, *Letter to Vincenzo Giugni*, June 25, 1610, 381-82, accessed August 12, 2018, https://ia600302.us.archive.org/21/items/agh6462.0010.001.umich.edu/agh6462.0010.001.umich.edu.pdf, trans. Mario Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago & London: University of Chicago Press, 1993), 136.

whether to accept him as a courtier and client, something Galileo believed should have been a forgone conclusion since he had dedicated the discovery of the four moons around Jupiter to his family's name, thereby increasing their fame and importance. Multiple scholars had confirmed this discovery, validated by the Medici family themselves, therefore Galileo was frustrated with this delay. He received the posting later that year in July of 1610, discussed further under the following section on Ambition.

His most famous and influential "dispute," or competition, would be that of the *Sunspot Letters* debate of 1611 wherein Galileo shows both *impatience* and latent *aggression;* both recurring and prominent traits throughout his career. Galileo and the Jesuit Scholar Christopher Scheiner, from the Collegio Romano, debated in letters via a very influential mutual patron named Marc Welser. Galileo responded to letters from Welser asking him to critique the enclosed letters from Scheiner, under the pseudonym of Apelles, about his theories on sunspots and the claims made of who discovered them first. Galileo calmly refuted each of Apelles findings in his initial response to Welser. Galileo's third refutation letter evidenced restrained impatience for Apelles conclusions, stating "I find some confusion, not to say inconsistency, for he returns to the old, commonly accepted Ptolemaic system as if it were true, having earlier shown he was aware that it was false."[4] Galileo tempers his frustrations in his response to Welser on May 4, 1612 by acknowledging that Apelles had:

> a free and not a servile mind; he is well able to grasp true teaching, and now, prompted by the strength of so many new ideas, he is beginning to listen and to

[4] Galileo Galilei, *Letters on the Sunspots: First Letter of Galileo Galilei to Mark Welser Concerning the Sunspots, in Reply to His Letter* (Villa delle Selve: Galileo Galilei, May 4, 1612), in *Selected Writings*, trans. William R. Shea and Mark Davie (Oxford: Oxford University Press, 2012), 39.

> assent to true and sound philosophy, especially as regards the arrangement of the universe. But he is not yet able to detach himself completely from the fantasies he absorbed in the past, and to which his intellect returns and lends assent by force of long established habit.[5]

This temperance may be attributed to his concern for the social standing, or image and influence of Welser as patron to both Galileo and Apelles (Scheiner). It would not follow proper etiquette to outright call Apelles an idiot, at least not directly, only implicitly. The letters from both Scheiner and Galileo were subsequently published as books, *Tres Epistolae de Maculis Solaribus Scriptae ad Marcum Velserum* and *Istoria E Dimostrazioni Intorno Alle Macchie Solari,* respectively.[6] Apelles was henceforth referred to in multiple letters and published works, usually mockingly.

One such public mocking of Apelles was a lecture, credited as written by Galileo but was given by a student of Galileo's named Mario Guiducci at the Florentine Academy in 1612. This lecture was in response to previous lecture given by the Jesuit Orazio Grassi on the comets of 1612. In this lecture Galileo, via Guiducci, calls Apelles (Scheiner) a "copyist" and refers to him as "someone who has tried to appropriate Galileo's inventions and who call themselves Appelleses [*sic*]."[7] In Galileo's preface to his book the *Assayer*, published in 1623, he referred to

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[5] Galilei, *Selected Writings*, 39.

[6] Christopher Scheiner, *Tres Epistolae de Maculis Solaribus Scriptae ad Marcum Velserum* (Augustae Vindelicorum: Ad Insigne Pinus, 1612), Carta 1r-7v, Biblioteca Nationale Centrale di Firenze. Accessed August 6, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=367704&lang=en; and Galileo Galilei, *Istoria E Dimostrazioni Intorno Alle Macchie Solari* (Roma, Appresso Giacomo Mascardi, 1613), accessed August 11, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=367710&lang=en.

[7] Mario Guiducci, *Letter to the Very Reverend Father Tarquino Galluzzi of the Society of Jesus*, in *The Controversy on the Comets of 1618*, trans. Stillman Drake and C.D. O'Malley (Philadelphia: University of Pennsylvania Press, 1960), 139.

multiple individuals, some by name and others left anonymous, whom had tried to steal his claim of priority over the discovery of celestial phenomena. Although Galileo did not *name* Apelles in the preface, Scheiner nevertheless interpreted the remarks as being directed towards him. Scheiner therefore devoted his first publication, the *Rosa Ursina,* to an all-out attack on Galileo. Historians have repeatedly conjectured that this enmity toward Galileo was instrumental in starting the inquisitional process against him in 1633.

The above mentioned lecture, given at the Florentine Academy against Grassi's comet observations, refuted every point made by Grassi, as Galileo had previously done with Scheiner in the sunspots dispute. This, again as with Scheiner, resulted in a public dispute and an ensuing competition. Grassi published *The Astronomical Balance, On Which the Opinions of Galileo Galilei Regarding Comets are Weighed, As Well as Those Presented in the Florentine Academy by Mario Guiducci and Recently Published*, under the pseudonym of Lothario Sarsi to assert his hypotheses. Galileo responded in kind with his publication of the *Assaye*r wherein he refuted all of Grassi's claims with critically acclaimed literary flare and witticism. At every turn throughout the *Assayer* there were comments referring to the pseudonym of Sarsi wherein Galileo declared him as confrontational and imaginative, alluding Sarsi's lack of intellect. Galileo remarks at the beginning of the *Assayer* that "most of the things he [Sarsi] undertakes to refute are not set forth by me but are divined (or better, let us say imagined) by him," implying that Sarsi's conclusions in the *Astronomical Balance* are in response to imagined slights, false observations, and improperly applied mathematics and astronomical theorems.[8]

[8] Galileo Galilei, *Assayer,* in *The Controversy on the Comets of 1618*, trans. Stillman Drake and C.D. O'Malley (Philadelphia: University of Pennsylvania Press, 1960), 175.

Further evidence of Type-A traits are found throughout the preface to the *Assayer*. Galileo expounded at length on the offenses of Simon Mayr, who had a pupil, Baldessar Capra, publish the operations manual for Galileo's invention, the military compass. In the preface to this publication, Mayr claimed that he had invented the military compass. Galileo's comments below can be construed as both *competitive* and *aggressive*. He wrote:

> I show resentment and cry out, perhaps with too much bitterness, about a thing which I have kept to myself these many years. I speak of Simon Mayr of Guntzenhausen; he it was [*sic*] in Padua, where I resided at the time, who set forth in Latin the use of the Said compass of mine and, appropriating it to himself, had one of his pupils print it under his name.[9]

Mayr left town before Galileo could bring charges against him and so instead Galileo "was obliged to proceed in the manner which is set forth in the *Defense"* in which Galileo pressed charges against the pupil instead. [10] Here we see the displayed Type-A trait of aggression, especially towards those who criticized his works, and towards those who claimed to have discovered or invented something of his before him. Galileo's aggression is further evidenced in the preface when he states that this same Simon Mayr also claimed:

> four years after the publication of my *Starry Messenger*, this same fellow, desiring as usual to ornament himself with the labors of others, did not blush to make himself the author of the things I had discovered and printed in that work.

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[9] Galilei, *Assayer,* 164.

[10] Galileo Galilei, *Difesa di Galileo Galilei* (Venetia: Tomaso Baglioni, 1613), Museo Galileo, accessed August 12, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=300954&lang=en.

> Publishing under the title of *The World of Jupiter*, he had the temerity to claim that he had observed the Medicean [*sic*] planets which revolve about Jupiter before I had done so.[11]

The examples listed above were selected to establish the applicability of the Type-A personality to Galileo. There are many more such examples, but to use them all would exceed the scope of this research. It is sufficient to say that the same types of conflicts ensued throughout his career, only with a different cast of characters, in slightly different settings, at regular intervals. Some of these conflicts will be elaborated in the following sections so as not to duplicate effort.

Ambitious Nature

Psychologists characterize ambition as the "persistent and generalized striving for success, attainment, and accomplishment."[12] It is also reflective of the continual "striving for position and wealth and [does] not indicate strivings for general well-being and socioemotional acceptance."[13] Galileo exhibits this trait repeatedly throughout his career. He began as a mathematics tutor who then managed to obtain postings at the University of Pisa in 1589 and the University of Padua in 1592 as their mathematics chair.

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[11] Galilei, *Assayer*, 165.

[12] Timothy A. Judge and John D. Kammeyer-Mueller, "On the Value of Aiming High: the Causes and Consequences of Ambition," *Journal Of Applied Psychology* no. 4 (2012): 758-775, accessed June 4, 2018, https://eds-b-ebscohost-com.ezproxy.snhu.edu/eds/pdfviewer/pdfviewer?vid=2&sid=a0eda05d-dd9d-482b-b1c7-b128303625ba%40sessionmgr103.

[13] Judge and Kammeyer-Mueller, "On the Value of Aiming High," 759.

In regards to the continual striving for wealth, mentioned above, Galileo received an increase in his salary in 1599 upon the reconfirmation of his Professor of Mathematics position at the University of Padua. The increase went from 180 Florins to 320 Florins.[14] In 1602 and in 1608, he was granted a full one year advance on his salary.[15] In 1609 the Venetian Senate, pressured by a patron of Galileo's, Antonio Priuli, voted on tenure for life and a salary increase to 1000 *scudi* for Galileo, but with a catch, he could never receive another raise in salary.[16]

Galileo was also repeatedly reported as an ambitious man by his contemporaries due to his continuous pursuit of the title of "philosopher," a profession that had a markedly higher social status in society in comparison with that of mathematicians. To obtain this additional title and the prestige that would accompany it Galileo wrote a letter to Grand Duke Cosimo II's mother, Grand Duchess Christina di Lorena, on December 8, 1606, to ask for a position at the Tuscan court. Galileo remarked how his "thought really would be to achieve so much peace and quiet. That I could, before the end of my life, publish the 3 great works that I have at hand."[17] He continued by stating that these works were *new* sciences, emphasizing their ability to bring

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[14] *Minutes of the Venetian Senate*, October 28, 1599, *Le Opere di Galileo*, vol. XIX, 112-13, accessed August 21, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=354826&vis=D#page/122/mode/2up, in *Sidereus Nuncius or a Sidereal Message*, trans. William R. Shea (Sagamore Beach: Washington Publishing International LLC, 2009), 6.

[15] *Letters of the Overseers to the Rectors of Padua,* February 20, 1603 and April 19, 1608, O*pere di Galileo*, vol. X, no. 89, 103-04 and no. 184, 202, accessed August 21, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=354813&vis=D#page/212/mode/2up, in *Sidereus Nuncius or a Sidereal Message*, trans by William R. Shea (Sagamore Beach: Washington Publishing International LLC, 2009), 6.

[16] *Minutes of the Venetian Senate*, August 25, 1609, *Le Opere di Galileo*, vol. XIX, 115-16, accessed August 21, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=354826&vis=D#page/124/mode/2up, in *Sidereus Nuncius or a Sidereal Message*, trans. William R. Shea (Sagamore Beach, Massachusetts: Washington Publishing International LLC, 2009), 7.

[17] Galileo Galilei, *Letter to Christina di Lorena*, December 8, 1606, trans. Krystle D. Lindamood, ed. by Antonio Favaro, *Le Opere di Galielo*, vol X, no. 209, 231-34, accessed August 6, 2018, https://ia600302.us.archive.org/21/items/agh6462.0010.001.umich.edu/agh6462.0010.001.umich.edu.pdf.

novelty and fame to the Medici name. His letter articulates further his desire for the position declaring:

> Perhaps the praise of those who hold me in high esteem, would allow a greater and more diurnal usefulness of the rest of my life. Greater than what I have here [Padua University]. I do not think I could have anywhere else...nor would I willingly exercise them in another city than in this one,...requiring me to request this [position]...To obtain from a Republic [Venice], though splendid and generous, salaries without serving the public, does not come to fruition. To obtain usefulness from the public, one must satisfy the public...no one can exempt me from this burden...and in sum, similar comfort I cannot hope for, other than from an absolute prince [Cosimo II].**[18]**

Eventually, Galileo obtained the title of Mathematician and Philosopher to Grand Duke Cosimo II in 1610, after his discovery of the four satellites around Jupiter, and the dedication of their discovery to Cosimo II in Galileo's publication, the *Sidereus Nuncius*.[19] This posting came with life tenure without the requirement to teach at the University of Padua, where he was still and would continue to be, the mathematics professor in absentia. It also came with an annual salary of one thousand *scudi*, a six hundred and eighty *scudi* increase from the salary he received at both the University of Pisa and Padua as their mathematics chair previously. Intriguingly, the salary did not come from the "Medici's treasury (the *Depositeria Generale*) but from the *Decime*

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[18] Galilei, *Letter to Christina di Lorena*.

[19] Galileo Galilei, *Sidereus Nuncius or a Sidereal Message*, trans. William R. Shea (Sagamore Beach: Washington Publishing International LLC, 2009).

Ecclesiastiche (the taxes on the Church properties in the grand duchy), which provided for the funds of the University of Padua," and so in effect, Galileo was paid by the University of Pisa, as noted above.[20] His was among the highest paid salaries of the Grand Duchy of Tuscany at that period, and one's salary was a direct reflection of one's importance and social status.[21]

Even with such a prominent patron, a client cannot depend on one patron alone as they could lose their power, die, or fall from grace. It behooved a client to have many patrons who could each advance one's position through different avenues. Galileo was no stranger to this requirement and he continuously sought out new patrons who would raise his social status and spread his name, and subsequently his fame. One influential patron outside of Italy, the previously mentioned Marc Welser, wrote to Galileo on behalf of a client of his to provide Galileo with a critique to his *Sunspot Letters*. Welser informed Galileo that he had "gladly complied with the desires of a friend of mine by sending you the enclosed paper, because I thought that it would not be unpleasant to see that even here beyond the Alps your books are being read with great attention, and that the very existence of disagreements testifies to this."[22]

Galileo wrote back to Welser on November 8, 1610, thanking him in the courtliest terms, professing:

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[20] Mario Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago & London: University of Chicago Press, 1993), 159.

[21] Biagioli, *Galileo, Courtier*, 104.

[22] Marcus Welser, *Letter to Galileo*, October 29, 1610, Gal 53 – II, Galileo, III.7.1, Galilei Galileo, 43, Astronomia, Carta 24r, Biblioteca Nationale Centrale di Firenze, accessed August 6, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19838&vis=D#page/50/mode/2up, trans. Mario Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago & London: University of Chicago Press, 1993), 69.

> I have always sought the occasion to dedicate myself to the service of your great virtue. Therefore I was most happy to receive from you the critiques from the most erudite Signor Brengger. In fact, even in case his criticisms prove unanswerable, I would still be more pleased by the errors in my work than by the truths, since it was through my errors that I gained a great patron.[23]

When Galileo's primary patron, Grand Duke Cosimo II died in 1621, he left eleven year old Ferdinand II as the heir. Ferdinand would not reach his majority for another seven years and was thus unable to advance and or support Galileo's ambitions as his patron, although Ferdinand would remain Galileo's primary patron. This inability to advance Galileo's works required Galileo to seek patronage of equal or higher status elsewhere; he looked to Rome. He courted friend and occasional patron, Cardinal Maffeo Barberini, now Pope Urban VIII. We see through a letter from Galileo's daughter Suor Maria Celeste that Galileo could not write to the new pope directly due the gap between them in social status. Suor Maria Celeste writes that "it was through your most gentle and loving letter that I became fully aware of my backwardness, in assuming as I did that you, Sire, would perforce write right away to such a person, or to put it better, to the loftiest lord in all the world."[24]

The Pope had written to Galileo while still a Cardinal on June 24, 1623, about debts owed to him. Cardinal Barberini reaffirmed:

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[23] Galileo Galilei, *Letter to Welser*, November 8, 1610, Gal 53 – II, Galileo, III.7.1, Galilei Galileo, 43, Astronomia, Carta 32r-32v, Biblioteca Nationale Centrale di Firenze, accessed August 6, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19838&vis=D#page/66/mode/2up, trans. Mario Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago & London: University of Chicago Press, 1993), 69.

[24] Dava Sobel, *Letters to Father: Suor Maria Celeste to Galileo 1623-1633* (New York: Walker & Co, 2001), 5.

> I am much in your debt for your continuing goodwill towards myself and the members of my family [Galileo helped obtain a doctorate for his nephew Francesco], and I look forward to the opportunity of reciprocating. I assure you that you will find me more than ready to be of service in consideration of your great merit and the gratitude that I owe you.[25]

These "owed" favors procured the patronage of the *new* Pope along with Galileo's dedication of the *Assayer* to him in October 1623. The Pope granted him an unheard of amount of audiences, six in as many weeks, to show his acceptance of Galileo as a preferred client.[26] There are numerous letters to and from Galileo that recount these visits wherein Galileo states that he believes that he could now speak, or write, freely on the subject of Copernicanism, a misunderstanding that would be his downfall.

Galileo's publication of the *Dialogue Concerning the Two Chief World Systems* in 1632 was the result of this misunderstanding and it accelerated his path towards condemnation. The death of Galileo's friend and patron, Prince Federico Cesi in 1630, had delayed the publication of the *Dialogue* until 1632, in the midst of a highly unstable political atmosphere. Although Galileo had been a favorite client of the pope, it had been suggested to Pope Urban VIII that the *Dialogue* ridiculed him, and therefore his position and power by association. The *Dialogue* also discussed Copernicanism as if it were a reality rather than as a hypothesis; contradicting the decree from the Church in 1616 wherein it was required for Copernicanism to be treated as a

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[25] William R. Shea and Mariano Artigas, *Galileo in Rome: The Rise and Fall of a Troublesome Genius* (Oxford, NY: Oxford University Press, 2003), 97.

[26] William R. Shea and Mariano Artigas, *Galileo Observed: Science and the Politics of Belief* (Sagamore Beach: Science History Publications, 2006), 150-52.

hypothesis only. This suggestion of ridicule was a pernicious one and it took root in the pope's mind. This thought, combined with the already widely perceived heretical doctrines contained within the *Dialogue*, led Pope Urban VIII to the decision to condemn him. Additionally, the recent deaths of multiple prominent patrons of Galileo's in Rome, the animosity from the Jesuits (incurred and discussed above under the Type-A personality section), and the distance of his primary patrons in Florence, all but predetermined a heretical verdict.

Galileo confessed himself as having "vain ambition" as part of his second deposition during his Inquisitional trial on April 30, 1633.[27] In Galileo's *Defense*, on May 10, 1633, he also depicts his actions in the printing of his work the *Dialogue*, as being introduced through the "vain ambition and satisfaction of appearing clever above and beyond the average among popular writers."[28] Galileo's Inquisitional sentencing, on June 22, 1633, indicated that the Inquisitional trial members felt that Galileo would have them believe that he wished them to attribute his errors to "conceited ambition rather than to malice" for printing on a topic he had been forbidden to discuss, teach, defend, or hold in 1616 under the precept (order) given to him by Cardinal Bellarmine.[29]

The trial members, via our own ability to see Galileo's private correspondence, got it right. He had intended to show the Copernican system as true and he had been ordered not to teach or defend the topic, yet had done so anyhow. Galileo's status as a very prominent client of

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[27] Shea and Artigas, *Galileo Observed*, 98.

[28] Maurice A. Finocchiaro, *The Trial of Galileo: Essential Documents* (Indianapolis: Hackett Publishing Company, 2014), 132.

[29] Finocchiaro, *Essential Documents*, 136; and Maurice A. Finocchiaro, *The Galileo Affair: A Documentary History* (Los Angeles: University of California Press, 1989), 147.

Grand Duke Ferdinand II, and the ties that Pope Urban VIII had with the Duke as a native of Tuscany, reduced the severity of Galileo's sentence drastically. He was found vehemently suspected of heresy, sentenced to house arrest, and required to say the seven penitential psalms once a week for the next three years.[30] The latter was taken up and carried out, with permission, by his daughter Suor Maria Celeste. Maria wrote on October 3, 1633, that she had found "a means of being able to do you good, Sire, in some very small way; that is by taking upon myself the obligation you have to recite one time each week the seven psalms, and I have already begun to fulfill this requirement."[31]

The above selected excerpts are only a cursory overview of Galileo's ambitious nature. To thoroughly evaluate each and every instance would be a research quest in and of itself, best saved for a future research opportunity. Although this paper aimed to end the evaluation of Galileo in 1633, it is of note to make the reader aware that Galileo continued to have ambitious tendencies even after his sentencing. His most famous work, The *Discourse on the Two New Sciences*, was published without permission from the Pope by smuggling it out to the Dutch publisher Louis Elsevier in 1636; it was subsequently printed in 1638.[32]

Narcissistic Tendencies

Galileo repeatedly demonstrated latent *narcissistic* tendencies wherein a "person is overly self-involved, and often vain and selfish," who evidences a "pattern for grandiosity, need for

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[30] Finocchiaro, *Essential Documents*, 138.

[31] Sobel, *Letters to Father*, 325.

[32] "Galileo Timeline," The Galileo Project, Stanford University, accessed August 20, 2018, http://galileo.rice.edu/chron/galileo.html.

admiration, and lack of empathy."[33] We must stress the latency of this trait, for while many of the attributes listed below are present, not all are, and therefore Galileo cannot be considered as having a personality *disorder* per the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).[34] The clinical definition of narcissism includes a rather long list of traits, they are as follows:

- A set of attitudes a person has towards oneself; including self-love, self-admiration, and self-aggrandizement.
- Several kinds of fears and vulnerabilities related to a person's self-esteem that include fear of loss of love and the fear of failure.
- A general defensive orientation that includes megalomania, idealization, denial, projections, and splitting.
- Motivation in terms of the need to be loved, as well as strivings for self-sufficiency and for perfection.
- A constellation of attitudes that may characterize a person's relationships with others.
    - This constellation includes exhibitionism, feelings of entitlement involving the expectation of special privileges over others and special exemptions from normal social demands, a tendency to see others as extensions of oneself, feelings and thoughts of omnipotence involving the control of others, an intolerance for criticism from others that

[33] *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. (Washington D.C.: American Psychiatric Association, 1994), 658, accessed August 26, 2018, https://justines2010blog.files.wordpress.com/2011/03/dsm-iv.pdf.

[34] *Diagnostic and Statistical Manual of Mental Disorders*, 658.

> involves the perception of criticism as a demand for changing oneself, a tendency to be critical of others who are different form oneself, suspiciousness, jealousy, and a tendency to focus on one's own mental products.[35]

Galileo manifests many of these traits throughout his letters and his published works mainly in the last bullet where his attitudes affect his relationships with others. Florentine Ambassador Piero Guicciardini noted how on multiple occasions Galileo "relied more on his own counsel than on that of his friends," especially when it came to his controversial belief of Copernicanism. [36] Galileo also displayed a strong intolerance for criticism from fellow scientists, religious authorities, and patrons. When criticized, even constructively, he either ignored the letter completely, or responded as if it was a personal attack, as with the *Sunspot Letters* mentioned in the Type-A personality section.

In a letter that Galileo wrote to one of his patrons and close friend, Prince Federico Cesi, on November 4, 1612, he discussed an impending response to the debate on the *Sunspots Letters* that Cesi wished to have published. In his response, we note that he remarks upon resentment, but we can also see his intolerance for the criticism received from Scheiner about his views and his "difficulty" in being civil in his responses to said criticism. Galileo wrote:

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[35] Robert Raskin and Howard Terry, "A Principal-Components Analysis of the Narcissistic Personality Inventory and Further Evidence of its Construct Validity," *Journal Of Personality And Social Psychology* no. n5 (1988): 890, accessed July 31, 2018, https://eds-b-ebscohost-com.ezproxy.snhu.edu/eds/pdfviewer/pdfviewer?vid=14&sid=a0eda05d-dd9d-482b-b1c7-b128303625ba%40sessionmgr103.

[36] Shea and Artigas, *Galileo Observed*, 45.

> I hope to expose the silliness with which this matter has been treated by the Jesuit [Christopher Scheiner]. I want to make this resentment known, but the desire to do so without insulting Signor Welser is causing me no small difficulty and is the cause of my being late… it is admirable to see the audacity and frankness with which he persists in asserting his position…of course I would be very stunned to see him say these things to my face.[37]

The *Sunspot Letters* would become the source documents for the investigation into Galileo and his possibly heretical views via the Dominican friar, Niccolò Lorini, who is credited with the first denouncement of Galileo to the Congregation of the Index in 1615. Lorini had reviewed the letter that Galileo had written to Benedetto Castelli in reference to Copernicanism which would later be expanded and become the famous *Letter to the Grand Duchess Christina*.[38] Lorini called for an investigation into the views of the "Galileists," carefully avoiding singling out Galileo. Lorini stated that the Galileists were "good people and good Christians, if a just a shade too arrogant."[39] He made references to the Galileists position that "Scripture take[s] the last place in disputes about natural effects and that astronomical arguments count[ed] for far

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[37] Galileo Galilei, *Letter to Federico Cesi*, November 4, 1612, trans. Krystle Lindamood, in *Le Opere di Galileo Galileo*, vol XI. no. 792, 348-49, ed. by Antonio Favaro (Firenze: R. Accademia dei Lincei, 1966), accessed August 11, 2018, https://www.liberliber.it/mediateca/libri/g/galilei/le_opere_volume_xi_carteggio_1611_1613/pdf/le_ope_p.pdf.

[38] Jean Dietz Moss, "Galileo's Letter to Christina: Some Rhetorical Considerations," *Renaissance Quarterly* 36, no. 4 (1983): 547-76, accessed June 11, 2018, http://www.jstor.org.ezproxy.snhu.edu/stable/2860733?pq-origsite=summon&seq=3#page_scan_tab_contents.

[39] Shea and Artigas, *Galileo Observed*, 40.

more than biblical statements," which led to further investigations into Galileo's previously mentioned *Sunspot Letters* as possible heretical documents.[40]

Galileo had many highly placed friends and patrons in Rome (Piero Dini, Giovanni Ciampoli, Benedetto Castelli, Cardinal Maffeo Barberini) who were able to convince the Holy Office not to condemn Galileo himself for his Copernican views, as that would reflect badly on Grand Duke Cosimo II, but to prohibit the Copernican doctrine itself. Effectively receiving *special favors* due to his position as the Grand Duke's mathematician and philosopher, reinforcing Galileo's' personal perception of impunity. He would also receive special treatment during his trial in 1633, discussed further below.

In a letter from Ciampoli dated February 27, 1615, Galileo was relayed cautions from a discussion Ciampoli had with Cardinal Bellarmine. Cardinal Bellarmine expressed that the "opinions" of the Copernican view should be handled with "greater caution in not going beyond the arguments used by Ptolemy and Copernicus and, finally in not exceeding the limitations of physics and mathematics," as theologians will amplify and distort these views to their advantage and his detriment.[41] Although Lorini's denouncement did not bring any convictions down on Galileo at this point, it would reappear as a referenced document in his trial in 1633.

Galileo becomes noticeably more aggressive in his subsequent published works towards those opposed to his Copernican view of the heavens. He explains his right to be so blunt, frank, and aggressive in his preface to his book the *Assayer,* translated by Stillman Drake in his book

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[40] Shea and Artigas, *Galileo in Rome,* 61.

[41] Ibid., 64.

The Controversy on the Comets of 1618.[42] Galileo states that leaving the "mask" on, the pseudonym of the writer he is responding to allowed him to:

> deal with him as an unknown person...[to] gain a wider field in which to make my arguments plainer and explain my ideas more freely…I believe in addition that just as he, thus unknown, has allowed himself to say some things against me which to my face he would perhaps not say, so it ought not to be taken amiss if I, availing myself of the privilege accorded against masqueraders, deal with him quite freely. Nor should he or anyone else suppose me to be weighing my every word when perhaps I may speak more frankly than will please him.[43]

This reply was originally intended to be a letter to Grand Duke Cosimo II, as was required by patron etiquette. According to a remark of Galileo's in his preface to the *Assayer*, he stated "I found that the matters contained in his [Grassi's] essay which required some attention multiplied under my hands, and I have been compelled to pass far beyond the bounds of a letter…It has been my thought to call it [the book] the Assayer."[44] As previously noted, the *Assayer* was dedicated to Pope Urban VIII as a gift for his new position in 1623 in the hopes that he would also become Galileo's patron. Both the *Sunspot Letters* combined with the *Assayer* alienated Jesuit scholars from Galileo, sowing the seeds of resentment between him and the Jesuits when before they had readily supported his scientific discoveries.

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[42] Galileo Galilei, *Assayer,* in *The Controversy on the Comets of 1618*, trans. Stillman Drake and C.D. O'Malley (Philadelphia: University of Pennsylvania Press, 1960), 170-71.

[43] Galilei, *Assayer*, 170.

[44] Ibid., 170-71.

This acceptance by the Pope to take Galileo on as a client and support his works exacerbated Galileo's *self-aggrandizement* tendencies. Suor Maria Celeste, in a letter to Galileo on October 29, 1623, remarked on the "delight I derive from reading the continuous stream of letters you send me; when I see how affectionately you share these with me, Sire, and how you enjoy making me aware of all the favors bestowed upon you by the great lords…"[45]

Suor Maria Celeste wrote again to Galileo on April 6, 1630, that it was disturbing her greatly to hear:

> how assiduously you are attacking your scholarly work, Sire, because I fear that this behavior is not without risk to your health. And I would not want you, while seeking to immortalize your fame, to cut short your life; a life held in such reverence and treasured so preciously by us your children, and by me in particular.[46]

Although this is obviously written out of concern for his health, the remark she makes about Galileo seeking to immortalize his fame is telling. Maria was well aware of how important her father and his scientific work was and how much he worried about what the world, his patrons, and other great lords thought of him. The work that was jeopardizing his health was none other than that of the *Dialogue*. As mentioned in the ambition section, the *Dialogue* was what cemented the pope's decision to pursue condemnation. It was also the sole book of Galileo's referred to during his trial, although other works of his also had Copernican leanings, like his *Assayer*.

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[45] Sobel, *Letters to Father*, 19.

[46] Ibid., 111.

During Galileo's trial in 1633, he repeatedly stated that he had been informed that the Copernican opinion "could neither be held nor defended, but it could be taken and used suppositionally [*sic*]," as transcribed from his first deposition on April 12, 1633.[47] Further in this same deposition, Galileo may have had a slip of the tongue. He affirmed "I do not recall that I was told anything else," that he was "saying freely what I recall because I do not claim not to have in any way violated that injunction, that is, not to have held or defended at all the said opinion of the earth's motion and sun's stability;" the double negative is explicit in the original sentence. A little further into the deposition, in regards to the printing of the *Dialogue*, Galileo reasserts that "I had neither held nor defended the opinion of the earth's motion and the suns' stability; on the contrary, in the said book I show the contrary of Copernicus's opinion," a statement he later contradicts in his second deposition.[48]

Contrary to the stated refusal of change for a narcissistic personality, Galileo does recant in his second deposition. He recognized the need to at least go on record as having changed his opinions to receive a lesser sentence. He gave testimony that he had reexamined his *Dialogue* and "found it almost a new book by another author," that if he could rewrite the book, he would weaken the arguments "in such a way that they could not appear to exhibit a force which they really and essentially lack."[49] Galileo ends this second deposition with the statement that "for greater confirmation that I neither did hold nor do hold as true the condemned opinion of the earth's motions and sun's stability, if, as I desire, I am granted the possibility and the time to

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[47] Finocchiaro, *The Trial of Galileo*, 124-25.

[48] Ibid., 127.

[49] Finocchiaro, *Essential Documents,* 129.

prove it more clearly, I am ready to do so."[50] There is an overtone of an expectation for special treatment in his request to edit and republish the *Dialogue*, a favor that has never been accorded to any other accused heretic whose works had also been condemned.

What is most intriguing is that there is a letter written by Galileo dated March 12, 1614, to Giovanni Battista Baliani, wherein he confirms "as far as the opinion of Copernicanism is concerned, I really hold it to be certain," leading to the above conclusion that he changed his opinion only to reduce his sentence.[51] This is contradicted again in his fourth deposition on June 21, 1633, where he stated that he "held, as I still hold, as very true and undoubted Ptolemy's opinion, namely the stability of the earth and the motion of the sun."[52] Galileo adamantly states again later in this deposition that "I do not hold and, after the determination of the authorities, I have not held the condemned opinion," while the Inquisitional trial members were of the opposite opinion due to the tone of the *Dialogue*.[53] The deposition continues, with more requests from the inquisitional members for the truth, and more reaffirmations that Galileo never held the said opinion.

Galileo's sentencing on June 22, 1633, reaffirms that the Inquisitional members did not believe his testimony. They claimed that in "the same book [the *Dialogue*] you have defended the said opinion already condemned and so declared to your face, although in the said book you try by means of various subterfuges to give the impression of leaving it undecided and labeled as

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[50] Ibid., 130.

[51] Shea and Artigas, *Galileo in Rome*, 58.

[52] Finocchiaro, *Essential Documents,* 133-34.

[53] Finocchiaro, *The Trial of Galileo,* 134.

probable," that he did believe in the Copernican theory.[54] The final sentence was determined by "the things deduced in the trail and confessed by you as above, have rendered yourself according to his Holy Office vehemently suspected of heresy."[55] Galileo was advised that he would be absolved from the censures and penalties imposed against "such delinquents" if he "abjure[s], curse[s], and detest[s] the above mentioned errors and heresies," thereby allowing the Inquisition to reduce his sentence and save face for the Holy Office and the Grand Duke.[56]

Galileo abjures on June 22, 1633, as instructed and his book, the *Dialogu*e, was put on the Index and prohibited from being printed or owned until 1744 under a decree given by Pope Benedict XIV.[57] Galileo was also sentenced to prison, but it was immediately commuted to house arrest as a favor to the Grand Duke. Other instances during his trial of special favors include that he was never housed in the Inquisitional prison but initially housed with the Florentine Ambassador Niccolini for two months.[58] Once the actual hearings began he was imprisoned for two and a half weeks, but not in a dungeon as other heretics would have been. Galileo "received a suite of three rooms among the chambers of the prosecutors themselves."[59] He was allowed to go to the courtyard for exercise or walks, and a servant, who could come and

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[54] Finocchiaro, *Essential Documents,* 136.

[55] Ibid., 138.

[56] Ibid., 138.

[57] John L.Russell, "Catholic Astronomers and the Copernican System After the Condemnation of Galileo," *Annals Of Science* 46, no. 4 (July 1989): 365-386, accessed August 27, 2018, https://eds-b-ebscohost-com.ezproxy.snhu.edu/eds/pdfviewer/pdfviewer?vid=18&sid=a0eda05d-dd9d-482b-b1c7-b128303625ba%40sessionmgr103.

[58] Richard S. Westfall, *Essays on the Trial of Galileo* (Notre Dame: University of Notre Dame Press, 1989), 75.

[59] Westfall, *Essays on the Trial of Galileo,* 75.

go freely.[60] He also had meals sent to him from the Ambassador.[61] These special favors and the continued patronage of the Grand Duke even after his condemnation led Galileo to pursue his final publication, the *Discourse on the Two New Sciences*, mentioned in the ambition section.

This section dedicated more examples of Galileo's narcissistic trait to show the breadth of the characteristics noted and the lack of all the required characteristics to be considered as a true narcissist with a clinical personality disorder. Many of the traits discussed above and those from the *Type-A Personality* and *Ambitious Nature* sections can, as with all things, have duality. As such, the Patriarchal traits discussed below will highlight this duality and note the complexity of the personality of Galileo in all his endeavors covered thus far.

Patriarchal Duties

While not necessarily characterized in psychological terms, being a family patriarch does change ones personality and behaviors. Galileo became the head of his family in 1591 when his father Vincenzio died, he was twenty-seven years old. This required for him to provide for his widowed mother and siblings as the oldest male. He had two younger sisters whom he paid dowries for upon their marriages. He supported his younger brother Michelangelo by paying for his schooling, upon his marriage, and continued to support his brother's family when they moved to Germany and after his brother's death in early January of 1630. There were the usual bills for housekeepers, other servants, groceries, personal physicians, and a glassblower (who made the eyepieces for his telescopes), and possibly many others that were unrecorded.

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[60] Ibid.

[61] Ibid.

Galileo had three children, two daughters and one son, all born out of wedlock that he provided for. When the two girls, Virginia and Livia, were thirteen and twelve respectively, Galileo obtained a special allowance to allow them to enter a convent before age sixteen and together, as it was not allowed for natural sister to be in the same convent. Their maintenance would incur yearly payments to house both his daughters, Suor Maria Celeste (Virginia) and Suor Arcangela (Livia), at the San Matteo convent in Arcetri. Galileo regularly sent his daughters foodstuffs; extra requested money for anything Galileo wished them to make for him, his son, and other family members; bolts of cloth; and paid for his daughter's medical bills for purgatives and bloodletting when they needed the services of a doctor, as Maria was the convents apothecary and could only rely on herbal remedies. [62]

Galileo also paid for Maria to move to a larger room, or cell as she referred to it, in the convent at one point upon her request. Maria wrote to her father on July 8, 1629, to ask for this favor, explaining that "the discomfort I have endured ever since I came to live in this house, for want of a cell of my own, I know you know, Sire, at least in part, and now I shall more clearly explain it to you."[63] Maria disclosed how she used to share a room with her sister Arcangela, but gave it to her solely three years prior to help her "distance herself" from one of the convent mistresses who was irritated by Arcangela's "habitual moods," and because Arcangela found "interactions with others unbearable."[64] To give Arcangela the room, Maria had to "spend every night in the disturbing company of the mistress…passing the days practically a pilgrim, having

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[62] Sobel, *Letters to Father*, 73.

[63] Ibid., 85.

[64] Ibid.

no place whatsoever where I can retreat for one hour on my own."[65] Maria does not ask for him to outright purchase the room, as per usual she only asks for what she is unable to provide herself. Her request establishes that she does not:

> yearn for a large or very beautiful quarters, but only for a little bit of space, exactly like the tiny room that has just become available…its price is 35 scudi while I have only ten, which Suor Luisa Kindly gave me, plus the five I expect form my income, I cannot take possession of the room, and I rather fear I may lose it, Sire, if you do not assist me with the remaining amount, which is 20 scudi.[66]

Maria was unable to procure the room at that time through no fault of her own, even though Galileo had sent her the requested 20 *scudi.* In a letter Maria wrote on November 22, 1629, she related how the nun who was selling it had changed her mind and would not accept the previously agreed upon amount. As with any child and their parent, she was afraid to tell him about this for fear he "would get upset."[67] Later in the same letter, she stated that she had used the 20 *scudi* to help out the Mother Abbess who then promised her a different room that cost 120 *scudi* but would give it to her for 80 *scudi*.[68] Maria points out that:

> she [the Mother Abbess] knows full well that I cannot pay a bill of 80 scudi, [and that] she offers to reduce it by the 30 scudi that you gave the convent some time

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[65] Ibid.

[66] Ibid.

[67] Ibid., 95.

[68] Ibid.

> ago, Sire, so that with your consent, which I see no reason to doubt, as this seems to me an opportunity not to be missed, I will have all that I could ever want in the way of comfort and satisfaction, which I already know is of great importance to you.[69]

As none of the following letters mention the need for the room again, it is reasoned that she managed to obtain this room as she had desired.

In regards to his son, Galileo would support Vincenzio throughout his life by paying for his schooling, his clothing, pocket money, and helping out with his family once Vincenzio married and had his own children. While Vincenzio was still a teenager, Maria wrote to Galileo on his behalf, demonstrating that Vincenzio was:

> in desperate want of more collars…[to please send her] a *braccio* [23 inches of cloth] of fine cambric and at least 18 or 20 lire, to buy the lace [to make the collars for him]…[and] seeing as Vincenzio has been so obedient to you, Sire, in always wearing his cuffs, I maintain for that reason that he deserves to have handsome ones.[70]

Galileo also took in and raised his grandson, Vincenzio's firstborn son, as we can see from what Maria wrote to Galileo on November 26, 1630. In this letter, she asks after the health of her nephew, whom she refers to as Galileino for he is the namesake for Galileo, who was left

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[69] Ibid., 95-97.

[70] Ibid., 15.

in Galileo's care when Vincenzio fled Florence during one of the outbreaks of the plague.[71] Vincenzio had fled during October as remarked upon in Maria's October 28, 1630 letter to her father, with his pregnant wife Sestilia to Prato, just outside Florence.[72] She considered his flight to be a "rash act," leaving Galileo's home "unguarded… considering all the mishaps that could occur," that could include burglary.[73]

Maria also entreated her father to help Vincenzio earn an income in a letter she wrote on March 11, 1630; the same letter where she relays her condolences on her Uncle Michelangelo's death, mentioned above. She persuades her father that if he "had some expedient for Vincenzio, then, by his earning an income, your difficulties and expenses would be lightened, Sire, while at the same time his opportunities for complaining could be curtailed…endeavor to put your own son first ahead of all these others; I speak of finding a means to ease his way."[74]

Galileo also provided for a few of his nieces dowries, or entrances into convents, and regularly helped other nuns in the San Matteo convent. Maria writes to Galileo on September 6, 1629, asking about how "La Lisabetta is faring, and if she wants anything from us," because Galileo was paying for this younger girls boarding at the San Matteo Convent.[75] She was not yet a nun and had been moved to Galileo's residence to be treated for an illness at this point in time.[76] Another letter from Maria, dated January 21, 1629, reminds Galileo that "Suor Brigida

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[71] Ibid., 141.

[72] Ibid., 131.

[73] Ibid.

[74] Ibid., 159-161.

[75] Ibid., 89.

[76] Ibid.

reminds you of the favor you promised her, namely the dowry for that poor young girl," who is not mentioned in the letter by name, but is not the previously named La Lisabetta[77] In a letter from Maria written on May 23, 1631, she asks her father to help Suor Luisa "as a sign of gratitude and recognition for all of my indebtedness" to her.[78] Luisa owed 24 *scudi*, and Maria asked her father to help pay this with the promise that it would be paid back within two months.[79] He also helped out many of his neighbors who fell on hard times, usually at the insistence of his daughter Suor Maria Celeste.

Galileo's chosen profession of that of the mathematician did not make enough money to provide for this many financial responsibilities. Galileo's courtly stipend of one thousand *scudi* per year was stretched pretty thin at all times. To provide for all these financial obligations, Galileo went so far as to become a clerical member of two canonries near the end of his life, earning him an extra 100 *scudi* per year.[80] The second canonry was taken upon himself only after failed attempts to successively *transfer* it to his son Vincenzio, his nephew Vincenzio, and his grandson Galileo to provide them with a steady income source. Neither of these postings required Galileo to be present at either canonry or perform any services there. While the Pope was his patron, he was also accorded another 60 *scudi* annually. Galileo also had what we would call today as a "side hustle," where he sold his military compass and telescopic invention for 250

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[77] Ibid., 105.

[78] Ibid., 177.

[79] Ibid.

[80] Shea and Artigas, *Galileo in Rome*, 131.

Florins each.[81] He also boarded students he tutored during his early years before Cosimo II became his official patron, and after his condemnation.[82]

Even though many of his pursuits can be perceived as a result of financial need, it does not detract from his honest displays of perpetual concern for his family members, as evidenced through letters from his daughter Suor Maria Celeste, wherein he constantly finds the means to provide for her every request, however great or small. Maria expressed her appreciation and love for Galileo's thoughtfulness in a letter dated March 25, 1628, confessing that she could not "fathom how you manage, even now while you find yourself indisposed, to think so much of us and our needs; but there is nothing to be said about it except that you are our father, our most tender, loving father, upon whom, after blessed God, we rely for our every hope.[83]

Galileo always sent fresh foods to his daughters at the San Matteo Convent in Arcetri, and was able to use his influence as a patron and as a preferred client to obtain her convent the services of a confessor. Maria wrote that:

> she [the Madonna], moved not by passion or self-interest but by sincere zeal, advised me, indeed beseeched me to ask you for something which would undoubtedly be of great use to us and yet very easy for you, Sire, to obtain: that is to implore His Holiness to les us have for our confessor a Regular or Brother in who we can confide, with the possibility that he be replaced every three years, as is the custom at convents, by someone equally dependable; a confessor who will not

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[81] Mario Biagioli, *Galileo's Instruments of Credit: Telescopes, Images, Secrecy* (Chicago: University of Chicago Press, 2006), 7.

[82] Biagioli, *Galileo's Instruments of Credit,* 6.

[83] Sobel, *Letters to Father*, 53.

interfere with the normal observances of our Order, but simply let us receive from him the Holy Sacraments….[84]

After reviewing the above examples of Galileo's personal life stressors we can interpret his ambitious qualities in two ways. First and foremost for his own gain, notoriety, and increased social positions. Secondly, we can see it as not only a *want*, but also a *need*, the need to provide for his family. Combining this trait and that of the patriarch with numerous financial responsibilities reveals a different perspective for Galileo's pursual of the Tuscan court position of Mathematician and Philosopher to the Grand Duke. It partly explains why he sought out patrons like Prince Cesi who financed all his publications. It explains that the delay in the printing of the *Dialogue* until 1632 was due to the death of Prince Cesi in 1630, leaving Galileo unable to afford to publish the book alone. This research only scratches at the surface of a full analysis of Galileo's personality traits. More time, research, and collaboration with experts will be necessary to fully evaluate this aspect of the Galileo Affair.

Pope Urban VIII

Although this research focuses on the psychoanalysis of Galileo, it was unavoidable to ascertain a few personality traits of individuals directly related to his condemnation such as Pope Urban VIII. The impact of the Thirty Years' War on Pope Urban VIII personality, as illustrated through letters of correspondence throughout Galileo's trial, highlighted paranoiac tendencies, explosive anger traits, and a penchant for shifting blame onto others. Pope Urban displayed "persecutory delusions [and] exhibit[ed] an exaggerated self-serving bias on attributional

[84] Ibid., 27.

measures" wherein he was easily led to "reach conclusions using less available data (e.g. jumping to conclusions bias)," such as the suggested claim that Galileo ridiculed him in the *Dialogue*. [85] Nowhere has it been recorded that Urban verified this claim himself, by either reading the book or consulting Galileo himself.

An example of the pope's typical emotional outbursts appears in a letter from Ambassador Niccolini to Cioli on September 5, 1632, wherein Niccolini relates that "His Holiness exploded into great anger, and suddenly he told me that even our Galilei had dared entering where he should not have, into the most serious and dangerous subjects which could be stirred up at this time."[86] The letter goes on to state that the pope believed he had been "deceived by Galileo and Ciampoli; that in particular Ciampoli had dared to tell him that Mr. Galilei was ready to do all His Holiness ordered and everything was fine; and that this was what he had been told, without ever having seen or read the work."[87]

This particular letter is very telling as it goes on further to relate the pope's initial emotional response to this perceived betrayal by Galileo. The pope initially refused to give special favors to Galileo in regards to his trial, such as notice of what he was charged with beforehand. Niccolini continues with the pope's tirade about trial procedure conveying that the pope:

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[85] Combs, Dennis R., Christopher O. Michael, and David L. Penn. "Paranoia and Emotion Perception Across the Continuum." *British Journal Of Clinical Psychology* 45, no. 1 (March 2006): 20, accessed June 9, 2018, https://eds-a-ebscohost-com.ezproxy.snhu.edu/eds/pdfviewer/pdfviewer?vid=10&sid=4cfd8138-aa30-4fd1-bb1d-d575f9d0f3f3%40sessionmgr4006.

[86] Finocchiaro, *Essential Documents*, 115.

[87] Ibid.

> answered violently: I say to Your Lordship (Grand Duke Ferdinand II) that the Holy Office does not do these things and does not proceed in this way, that these things are never given in advance to anyone, that such is not the custom; besides, he [Galileo] knows very well where the difficulties lie, if he wants to know them, since we have discussed them with him and he has heard them from ourselves.

Niccolini suggests to Cioli that they should talk from now on to Cardinal Barberini, the nephew to the Pope about Galileo's impending trial as "for when His Holiness gets something into his head, that is the end of the matter, especially if one is opposing, threatening, or defying him, since then he hardens and shows no respect to anyone."[88]

In another letter from Ambassador Niccolini to Cioli, dated February 27, 1633, the Pope seems to have calmed down, or Niccolini was very prudently tactful in his relation of the events. Galileo had just arrived in Rome for his trial and the pope had performed for "Mr. Galilei a singular favor, not done to others, by allowing him to stay in this house rather than at the Holy Office, and that this kind of procedure had been used only because he is a dear employee of the Most Serene Patron and because of the regard due to His Highness."[89]

Ambassador Niccolini expresses at the end of this letter that the pope "felt warmly toward Mr. Galilei and regarded him as an exceptional man, but that this subject is very delicate; for it involves the possibility of introducing some imaginary dogma into the world," which could not be proven.[90] This volte-face by the pope in his attitude was not unusual, many other

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[88] Ibid., 117.

[89] Ibid.

[90] Ibid., 118.

Cardinals, theologians, and noblemen who corresponded with him routinely corroborated his volatile nature. Even though the pope commuted Galileo's prison sentence to house arrest, he did so only after regular petitioning from Galileo's supporters and patrons. As the first letter showed, Pope Urban VIII did not tolerate defiance and could be vindictive in his punishments. This could partly be the reason why Galileo's works were kept on the index for so long after his death, as mention previously.

Again, this excursion into Pope Urban VIII was unavoidable. He ordered the investigation into Galileo that resulted in the trial, he also determined and approved Galileo's final sentencing. The pope's personality was as much a direct influence in Galileo's career and condemnation as was Galileo's own. Even with only the few examples listed above, it is evident that his personality was at best temperamental. Further research would be necessary to elicit the finer nuances of this influencing factor in Galileo's condemnation. This information is supplemental to the posed research for awareness purposes of the reader only and will not be included into the digital exhibit.

Psychoanalysis of Galileo Galilei **Exhibit (See Appendix A)**

A digital exhibit was decided as the best course of action for the project due to the abundance of letters of correspondence and portraits that were necessary to convey an understanding of the events surrounding Galileo's career and his condemnation. There are no known psychoanalytic exhibits of historical figures, although there are a few books and articles performed on other historical figures. The need for such an exhibit was necessary to highlight that even such illustrious "founding fathers" are human too, and should therefore be treated accordingly; even if that treatment assigns blame to the individual for their predicaments.

The digital exhibit the *Psychoanalysis of Galileo Galilei* was developed using Omeka software. If and when this exhibit is incorporated into a museum, the current free basic Omeka plan would need to be upgraded to the Platinum Plan. This plan is specifically for institutions and allows for more storage space and therefore additions and or improvements to the current design layout and structure.[91]

The digital exhibit contains paintings of prolific correspondents and excerpts of selected letters and publications. These items were gathered into individual collections or themes based upon a particular observed personality trait. As is standard with every exhibit, the visitor begins with an introductory panel that provides a summary explanation of what the exhibit will encompass. The introduction panel notes the main observed personality traits of Galileo, and that letters of correspondence and clinical definitions of each personality trait would be used throughout the exhibit to establish Galileo's role in his condemnation. The subpages were divided by personality traits – Type-A personality, Ambitious Nature, Narcissistic Tendencies, and Patriarchal Duties. This organization and flow is the most logical for the understanding of the artifacts and research findings.

The "key" figures were limited to only the most prolific or influential correspondents of Galileo who also had the greatest impact on his career and his condemnation. There is a separate subpage for the biographies of each of these individual correspondents to include: Galileo Galilei, Grand Duchess Christina di Lorena, Grand Duke Cosimo II, Grand Duke Ferdinand II, Christopher Scheiner, Cardinal Robert Bellarmine, Pope Urban VIII, Marc Welser, and Prince Cesi. This was deemed necessary to help visitors correlate why these individuals were of import

[91] "Pricing," Omeka.net, accessed September 13, 2018, https://www.omeka.net/signup.

to Galileo's life. Paintings of each of these correspondents were used to help visual learners associate "speakers" with their written comments and were placed next to their biographies. The decision was made eliminate these portraits from each of the personality trait subpages to reduce the appearance of clutter, allowing for the streamlining of the overall exhibit design and flow.

The digital exhibit's appearance relied heavily on sharply contrasting colors for visual appeal and legibility. Black backgrounds with bolded white lettering were employed to assist those with diminished eyesight. Yellow lettering was applied to all hyperlinks within the exhibit and are clearly contrasted with the white text, thereby facilitating rapid location of the said links. Psychological definitions were kept to a minimum for ascertainment of specific traits and were defined as succinctly as possible. Labels, in general, were kept to roughly a paragraph or two in length per image to retain the audience's attention as "visitors will not spend time reading lengthy documents."[92]

The conclusions from the above research and digital exhibit design decidedly favor that Galileo's personality was a direct influence on the decision of the Catholic Church to condemn him in 1633. The above conclusions will be summarized again in the conclusion chapter. As nothing is ever free in life, and hints at the labor involved in this research were mentioned throughout the digital exhibit's design section above, we will now discuss the minutia of this labor in the following chapter on "Budgets and Staff."

[92] Lois Hamill, *Archives for the Layperson: A Guide to Managing Cultural Collections* (Maryland: AltaMira Press, 2013), 140.

Chapter 5: Budget and Staff

No institution can function without a well-balanced budget. The responsibility of the "governing body and the museum director is to ensure the museum has a robust financial management system in place" for the operations budget and capital budget.[1] The operating budget deals with the day to day finances of a museum and can include: staff salaries, travel expenses, building and grounds maintenance, energy costs, insurance, cleaning, security, computers and their maintenance, collections management, and visitor services.[2] Capital budgets are for "purchases and developments such as new buildings, equipment or major refurbishment programmes [*sic*]" and are not included in the operating budget because they are one-time expenditures.[3] Capital funds are sourced from "endowment funds, appeals, government grants, or [by] borrowing" to cover costs.[4] A very detailed "how to" for preparing and managing budgets for museums can be found under chapter twenty-one, *Tools and Techniques of Nonprofit Financial Management* by Woods Bowman.[5]

The *Psychoanalysis of Galileo Galilei* digital exhibit would be considered a capital budget in the sense that it was privately funded and was a one-time expenditure. If this exhibit were to be attached to the Virtual Psychology Museum, they would incorporate its maintenance

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[1] Timothy Ambrose and Crispin Paine, *Museum Basics* 3rd ed. (New York: Routledge, 2012), 92.

[2] Ambrose and Paine, *Museum Basics*, 377-78.

[3] Ibid., 375.

[4] Ibid.

[5] Woods Bowman, "Tools and Techniques of Nonprofit Financial Management," in Jossey-Bass Handbook of Nonprofit Leadership and Management, David O. Renz and Associates (New Jersey: John Wiley & Sons, 2016), 564-593.

costs into their operations budget. Budgetary and staffing considerations for the research and Omeka digital exhibit's creation required the use of multiple supplies, equipment, and collection materials. Investments were made in multiple hard copies of used secondary source books and translated versions of primary sources books. These were sourced from expedited shipping companies such as Amazon.com at the lowest fares available. Twenty-five books were purchased with an average cost of $30, a minimum of $5, and a maximum of $60. All prices incorporate the shipping costs that varied from seller to seller of the used book stores.

The digital exhibit's development required computer and internet access to obtain and manage an Omeka.net account. The research was performed via the use of a personal laptop already in possession, and included a backup laptop noted in the budget. Current local internet service fees for Mascoutah, Illinois through Charter Communication Services averaged at $69 per month. This project required ten weeks for development, bringing the internet service fee to $207 in total.

The development and design of the exhibit was provided pro bono through roughly thirty hours of actual web design and postings. Research for the narrative and supporting exhibit items required roughly three hundred hours. This included obtaining collection images and copyrights from the BNCF, Accademia Nazionale dei Lincei Roma, Wellcome Collection, Uffizzi Gallery, and the Museo Galileo. Some of the selected letters had not been previously translated into English and required the use of Google Translate services. Others required sourcing of the previously translated material from the above sourced books.

Advertisements upon completion of the digital exhibit would be necessary to "get the word out" and attract potential visitors. One option is the use of free social media platforms using: Facebook, Instagram, Snapchat, Google+, and Twitter. Brochures and Social media

announcements will incorporate the use of Quick Response (QR) codes that take potential visitors directly to the digital exhibit homepage where they could then explore as they wished. Figure 1 below is an actual QR code developed that will take you to the digital exhibit's homepage. Any smartphone or tablet has the ability to scan this code. If you click "ctrl" on your computer keyboard, and then click on the image below it will also hyperlink you to the exhibit's homepage. This code was created free of charge on "The QR Code Generator" webpage.[6]

Figure 1: Psychoanalysis of Galileo Galilei Omeka Exhibit QR Code

Advertisement costs for brochures, newspaper advertisements, and radio advertisements to reach older audiences, as discussed in the specialized audience chapter, would be a minimum of an initial one hundred dollar investment. This would allow for "getting the word out." The printed advertisements would be strategically placed in locations where there is a higher chance of reaching the target audience. Newspapers with nationwide readership such as the New York Times, or the Chicago Tribune would be ideal. Radio advertisements would be best played on classical, oldies, classic rock, and older country radio stations as few aged sixty and up individuals listen to rap, hip-hop, or pop. Brochures would be best placed in prominent museums

[6] "The QR Code Generator," QR Code Generator, accessed August 9, 2018, https://www.the-qrcode-generator.com/.

such as the Smithsonian Institutions located throughout the country. See Figure 2 below for the exhibit development budget.

Pro Bono Expense Description	**Expense**
Hard Copies of Documents	$500
Purchase of Secondary Source Books	$1,000
Supplies: Omeka exhibit: $0.00 1 Backup Computer: $2,000 2 Back up hard drives: $200 Printer and Ink: $200	$2,400
Volunteer Student hours: 60 hrs. @ $17.55/hour x 1 person	$1,053
Internet Services: $69 monthly x 3 months	$207
Advertisements: Social Media, QR code development	$0
Total Pro Bono Project Costs:	**$5,160**

Figure 2: Omeka Exhibit Development Cost

Attachment of this exhibit to the Virtual Psychology Museum, or another museum in the future, would require funding that could be obtained via the National Endowment for the Humanities Digital Projects for the Public grant.[7] The Prototyping Grant under the Digital Projects for the Public would be best suited to this exhibit. Prototyping grants can be awarded to a maximum of $100,000, supporting the creation of a "proof-of-concept prototype" of a digital exhibit where the last consultations and finalization of the web design are performed.[8]

[7] "Digital Projects for the Public," National Endowment for the Humanities, accessed July 16, 2018, https://www.neh.gov/grants/public/digital-projects-the-public.

[8] "Digital Projects for the Public," Catalog of Federal Domestic Assistance (CFDA) Number: 45.164, National Endowment for the Humanities, 4, accessed August 9, 2018, https://www.neh.gov/files/grants/digital-projects-the-public-june-6-2018.pdf.

Future management of the exhibit would fall to the host museum and would require the services of two technical experts for exhibit management and their associated salaries. Museums already employ these specialist as well as the services of social media representatives to answer questions posted to the museum webpage via these social media platforms. The digital exhibit would also require movement to the Omeka Platinum Plan, reserved for institutional use, currently priced at $1000 annually. [9] This cost would be incorporated into the museums operational budget. Other sources of funding for the maintenance of this exhibit could be obtained via donations, bequests, sponsorship from private companies, and membership subscriptions.[10] See Figure 3 for maintenance costs budget.

Expense Description	**Org Expense**	**NEH Grant Expense**
Legal Fees	$1000	$0
Insurance	$1000	$0
Supplies: Omeka exhibit Platinum Plan: $1000.00 annual cost 2 Back up Manual Servers: $200 Cloud Digital Storage Services: $500	$1700	$0
Staff Benefits: Total Salaries x 40% ($60,470 x 40%), F.I.C.A., Medicare, S.U.I., Workman's Compensation, Health Insurance	$20,940	$100,000
Internet Services: $69 monthly x 3 months	$207	$0
Advertisements: Brochures, Social Media (free), Newspaper, Radio	$100	$0
Staff Training: Omeka Software	$1000	$0
Sub Totals:	**$26,047**	**$100,000**
Total Project Cost: **Amount Contributed by Organization:** **Grant Request:**		**$126,047** **$26,047** **$100,000**

Figure 3: Omeka Exhibit Maintenance Cost, Virtual Psychology Museum

[9] "Pricing," Omeka.net, accessed September 13, 2018, https://www.omeka.net/signup.

[10] Ambrose and Paine, *Museum Basics*, 3384-86.

The responsibilities associated with managing a financial budget and the differences between an operational and capital budget were discussed to establish which should be applied in the development of this exhibit and its attachment to the specified Virtual Psychology Museum. Advertisements via brochures, newspapers, radio, and social media platforms were introduced as a means of marketing the exhibit to the selected target audience. Sources of future funding for the maintenance of the exhibit via other avenues of fund sourcing were also given, such as grants, endowments, and donations. Each of these types of funding can involve ethical dilemmas depending on how they are sourced or donated and will be elaborated on further in the following chapter on “Recommendations and Ethical Considerations.”

Chapter 6: Recommendations and Ethical Considerations

Museums should be aware of the particular ethical issues that may surround the objects that they have in their collections. This can include the "return and restitution of cultural property to its country or place of origin, or its original owners."[1] There are two documents that museums abide by when the return and restitution of cultural property is necessary; UNESCO's "Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property 1970" and UNIDROIT's "Convention on Stolen and Illegally Exported Cultural Objects 1995."[2]

Documents, objects, and portraits related to the Galileo Affair are almost exclusively held within Italy at the BNCF, the ACDF, and the Museo Galileo. The MET museum holds a portrait of Cosimo II, the National Maritime Museum in England has a portrait of Galileo, and various other museums have original manuscripts or first editions of Galileo's works, like the National Air and Space Museum in Washington D.C. Each of these museums have coordinated with Italy and have been granted permission to keep the items they currently have. This projects artifacts geographically separated locations required sourcing digital copies of all the items for the digital exhibit. Before acquiring digital copies of an item, the item's provenance had to be ascertained so that none would be illegally represented in the online exhibition.

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[1] Timothy Ambrose and Crispin Paine, *Museum Basics* 3rd ed. (New York: Routledge, 2012), 207.

[2] "Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property 1970," UNESCO, November 14, 1970, accessed August 10, 2018, http://portal.unesco.org/en/ev.php-URL_ID=13039&URL_DO=DO_TOPIC&URL_SECTION=201.html; and "Convention on Stolen and Illegally Exported Cultural Objects 1995," UNIDROIT, June 24, 1995, accessed August 10, 2018, https://www.unidroit.org/instruments/cultural-property/1995-convention.

During research and development of the digital exhibit, other ethical considerations, such as the professional portrayal of Galileo, church officials, and other correspondents, in respect to their achievements and to their countries of origin cultures, were taken into account and treated accordingly. This professional portrayal was accomplished by the use of established psychanalytic theorems that backed all noted personality trait analyses. Other considerations included excerpting direct quotations from the individuals represented via their letters of correspondence, rather than paraphrasing their comments, and the painstaking use of citations for verification purposes.

Diligent efforts went into obtaining copyrights for any items utilized in the exhibition in the same manner as museums currently operate under. Research into the Digital Millennium Copyright Act (DMCA) decided what route was be taken by this project in reference to published works.[3] The creators of the analog materials that have been digitally scanned no longer have the copyright to their materials, all published works before 1923, by foreign countries, reside in the public domain.[4] Any copyrights exist in the digital photographs of these items themselves and were obtained from BNCF and the Museo Galileo, and all others were either Creative Commons, Public Domain, or verified as authorized for educational purposes only. See Appendix B for copyrights.

Precautions were taken to ensure that accurate interpretations of the translations of the primary and secondary sources were obtained. Not all of Galileo's letters have been translated into English. Previous Galilean scholars have overcome the need for translators by learning the

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[3] "Copyright Law of the United States," Copyright.gov, accessed May 29, 2018, https://www.copyright.gov/title17/.

[4] Peter B. Hirtle, Emily Hudson, and Andrew T. Kenyon, *Copyright and Cultural Institutions: Guidelines for Digitization for U.S. Libraries, Archives, and Museums* (Ithica: Cornell University Library, 2009), 49.

Italian and Latin languages. They translated the documents they needed but only used excerpts in their books and did not publish the entire translated works. The lack of fluency in Italian necessitated the reliance on translations by prominent Galilean historians as discussed in the "Historiography" and "Methodology" chapters, possibly omitting key documents in the process. Even still, a few documents required translation, a task that was undertaken with great care. Due to this restriction in fluency, it was vital to obtain as many translated works as possible of the same documents by different historians to cross reference for consistency.

Attaining knowledge of Italian courtly mannerisms also helped reduce the possibility of the transposition of today's values onto Galileo's era.[5] To remain neutral in the display of facts of each of these men, only the letters of correspondence that explicitly showcased a personality trait, as per standard psychological definitions, were displayed. None that could reasonably be deemed as debatable by the target audience, historians, or psychologists were used.

As stated in the "Budget and Staff" chapter, the future of this exhibit as a reality would require its attachment to a museum. The proposed museum has been the Virtual Psychology Museum, but this is not the only museum that this exhibit could support. This exhibit's incorporation into the Virtual Psychology Museum would help the museums mission to further the education of psychology by "increasing and disseminating psychological knowledge through meetings, professional contacts, reports, papers, discussions and publications."[6]

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[5] *Court and Politics in Papal Rome, 1492-1700*, ed. by Gianvittorio Signorotto and Maria Antonietta Visceglia (Cambridge: Cambridge University Press, 2002), 53-77; and *Church, Censorship and Culture in Early Modern Italy*, ed. by Gigliola Fragnito, trans. Adrian Belton (Cambridge: Cambridge University Press, 2001), 134-162.

[6] "About APA: Our Work," American Psychological Association, accessed August 8, 2018, http://www.apa.org/about/index.aspx.

Recommendations for improvements to the digital exhibit would come from the visitors of the digital exhibit, staff, and volunteers by surveys or social media. Without critical and constructive feedback the exhibit cannot be improved. There are three ways museums evaluate their exhibits: front-end evaluation (at the beginning), formative evaluation (middle), and summative evaluation (at the end).[7] Front-end is generally performed before the exhibit has been developed, and therefore would not apply to this digital exhibit. Formative evaluations are completed during the design phase. This also would not apply to this exhibit, per say, as it will be completed for submission, but could apply if attached to a museum as they will review and make the necessary changes before letting the exhibit go "live" on their webpage.

As for the summative, it is performed after the exhibit is opened, as is the case for this digital exhibit submission for the thesis project. There are three main techniques for this evaluation. The first techniques is to watch or track visitors using the website management tools that record the number of website hits and shares or likes through social media platforms. This would be broken down for statistical analysis for each subpage of the exhibit and would highlight which pages are the most popular.[8] The second technique, interviewing visitors, would be accomplished for a digital exhibit in the form of a detailed survey, maybe as a popup on the museum webpage asking for feedback. It would ask what they learned, which sections were most interesting and why, and also what improvements they suggest.[9] The last technique, critical appraisal, is where an outside expert is called in to "prepare a detailed critique of the completed

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[7] Ambrose and Paine, *Museum Basics*, 166.

[8] Ibid.

[9] Ibid.

exhibition."[10] This technique is applicable to exhibit's that have been open for a number of years and need to be modernized. The first and second techniques for the summative would suit this digital exhibit's purposes for incorporation into the Virtual Psychology Museum, or any other suitable museum.

One final ethical consideration, as alluded to in the budgeting chapter, would be the application and use of sources of fundraising. Bequests, donations of money, can sometimes have specified conditions associated with them by the donor, such as what must be displayed or discussed about a collection or object in order to receive the bequest, and must be carefully assessed before a museum accepts the bequest.[11] Even sponsorships, usually from a corporate business, can have these same issues. Museums must perform detailed research into the sponsors "work, their aims and objectives, the type of sponsorship they might provide, and the nature and timing of applications" to assess whether they should seek this type of funding.[12] Usually this type of sponsorship is pursued for one off projects, and will help to fund the capital budget. One last concern would be the entrance into a loan agreement. These should be entered only after "due care and attention to the details of the loan arrangement and the museum's constitutional ability to accept loans," have been thoroughly assessed, and repayment has been calculated and forecasted into future budgets.[13]

Many of the major ethical concerns for the development of the *Psychoanalysis of Galileo Galilei* digital exhibit have been discussed above. UNESCO and UNIDROIT standards,

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[10] Ibid., 169.

[11] Ibid., 385.

[12] Ibid., 386.

[13] Ibid., 387.

provenance, copyrights, and translations were specific considerations for this exhibit. Further discussions were related to the attachment of this exhibit to the Virtual Psychology Museum and the type of fundraising necessary to accomplish this aim, as well as the draw back to other forms of possible funding sources. Future revision of the digital exhibit and the standard evaluation forms used; front-end, formative, and summative evaluations, were outlined and the latter was concluded to be most appropriate for this exhibit's future revision evaluation process. After all of these considerations have been assessed, we must come to our conclusions about the research findings and the development and application of the digital exhibit, summarized in the following chapter.

Conclusion

The chosen research topic of Galileo Galilei and the associated interpretive lens of psychoanalysis were introduced as a new avenue of research and interpretation into this endless historical debate. In the historiography chapter, we were able to conclude that the plethora of available literature on the subject of Galileo usually refers to some outside force acting upon him. No available research was found that focused on Galileo himself, to determine how much his actions contributed to his condemnation. This research filled this gap and examined what the observed personality traits of Galileo were and how these traits directly impacted his career, condemnation, and more specifically the level of the severity of his sentencing using select excerpts of letters of correspondence between the years of 1606-1633.

This research examined what Galileo's main observable personality tendencies were, and how they directly impacted his career and subsequent condemnation. Selected letters of correspondence between Galileo, theologians, Cardinals, patrons, friends, family, and transcripts of the trial proceedings elicited these nuances. While time and research constraints relegated the research to the use of a handful of examples, any interested scholar can review the literature and note the prevalence of these traits throughout his correspondence.

It was concluded that Galileo most closely aligned with the Type-A personality with well-established ambitious leanings, slight narcissistic tendencies, and a dutiful sense of patriarchal responsibilities. The combination of the first two traits never bodes well for anyone, whether in Galileo's era or the present. People of this nature tend to rub others the wrong way in general, and this can create vendettas that individuals try to mask as standard procedure for due

processes, as was the case in regards to Galileo's interactions with Jesuit scholars as noted in the research chapter.

These research findings illuminate that those who claim that Galileo was unjustly persecuted fail to see that there are more than two sides to every story. Galileo was not an innocent bystander caught up in the whirlwind of supposed animosity between science and religion. He was, if anything an abrasive personality to anyone who questioned him and or stood in the path of his goals or ideas. He belittled other scholars on a regular basis and refused to accept criticism of his scientific hypotheses.

He was passionate, not ordinarily a bad thing, but he continuously pressed his luck when repeatedly warned to back off, as was detailed by numerous accounts from correspondents such as Ambassador Francesco Niccolini during his Galileo's visits to Rome. His continued insistence that science and religion were not contradictory, and that religious teachings should be reinterpreted according to science, as evidenced in Galileo's Letter to the Grand Duchess Christina, created what we would call today a public relations nightmare. Galileo was a complex individual. We explored the duality of his dominant personality traits and explored the possibility that his patriarchal family position may have directly influenced many of his decisions.

The associated digital exhibit, the Psychoanalysis of Galileo Galilei, proposed to be attached to the Virtual Psychology Museum, showcased selected excerpted letters and manuscripts along with the applicable research narrative. The lack of fluency in the language the documents are written in required the heavy use of digital archives and translation sources. These translations and original primary source documents were applied to the digital exhibit and structured in accordance with the target audience needs; specified as that of psychologists, historians, college students, and interested adults aged 18 and up.

Considerations for funding the implementation of this exhibit to the Virtual Psychology Museum, and for the future maintenance of the digital exhibition, were determined to be best appropriated from the National Endowment for the Humanities Digital Projects for the Public grants programs. Other viable options were the use of donations, sponsorships, and endowments. Effective marketing tools for advertising the digital exhibit to both the younger audiences (Millennials), and the older audiences (those over sixty), include the use of social media: Facebook, Twitter, LinkedIn, and Google+ and QR codes and newspaper, radio, brochure ads respectively. The Virtual Psychology Museum's mission statement of "advance[ing] the creation, communication, and application of psychological knowledge to benefit society and improve people's lives," was accomplished by applying psychoanalytic knowledge to promote the understanding of a historical figure, and by extension of the visitors themselves.[1]

As this is the first attempt at a psychoanalysis of Galileo, it will, of course, need further refining. Practicing psychologist should be consulted in future collaborations with historians to evaluate the records and provide a more in-depth analysis of Galileo. The leading figures involved in Galileo's career should also be analyzed; most notably Pope Urban VIII, Christopher Scheiner, and Orazio Grassi. The broadening of the research to include these individuals will offer further insight into each, their motives, and how the Italian social structure truly worked encompassing a variety of social positions. This research aimed to promote a general understanding of the people involved, especially that of Galileo himself. This will hopefully reduce the tendency to attribute the actions of individuals as representative of the institutions

[1] Ryan C. Martin and Georjeanna Wilson-Doenges, "The Virtual Psychology Museum," American Psychological Association, accessed August 7, 2018, http://www.apa.org/ed/precollege/ptn/2017/09/virtual-psychology-museum.aspx.

they serve. It is the hope of the researcher that this analysis may help abate lingering debates between religious and scientific disciplines.

Appendix A: *Psychoanalysis of Galileo Galilei* Omeka Exhibit

Located at the following link: *Psychoanalysis of Galileo Galilei.*

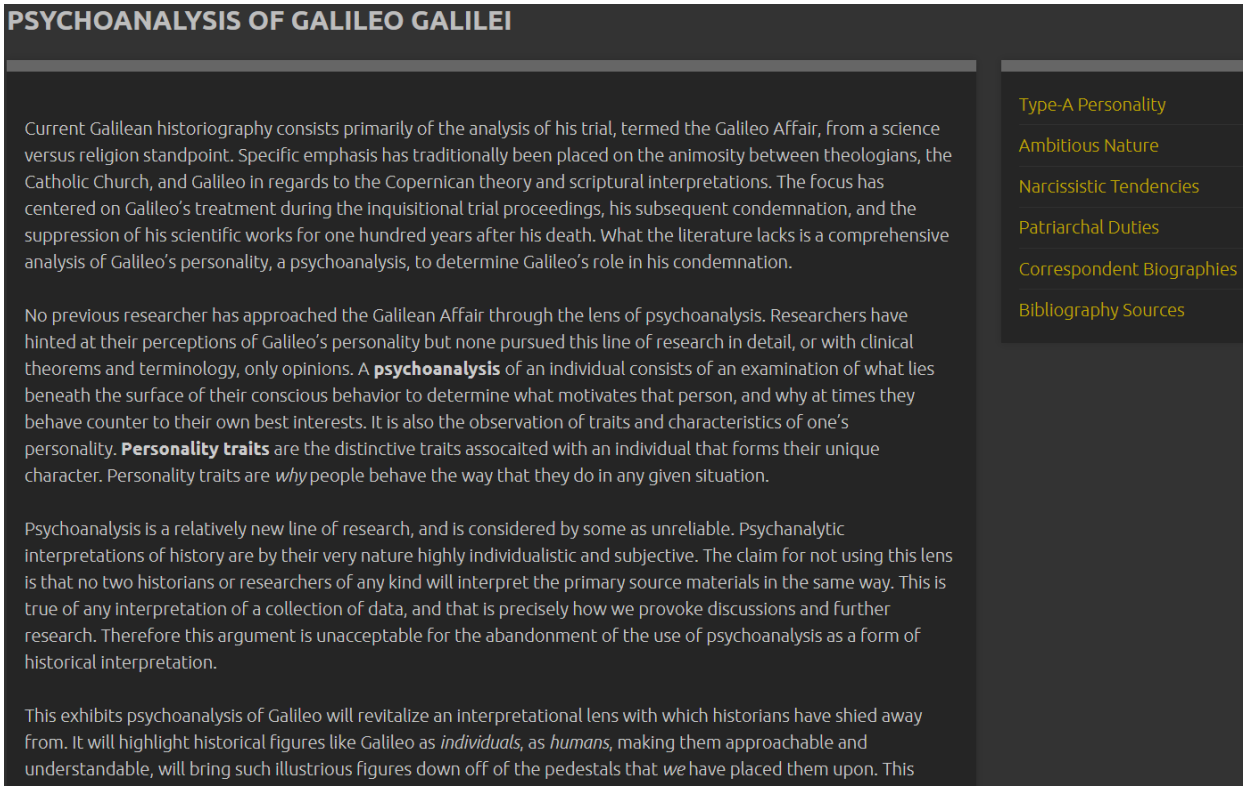


Figure 4: Introduction Panel to Psychoanalysis of Galileo Galilei Exhibit

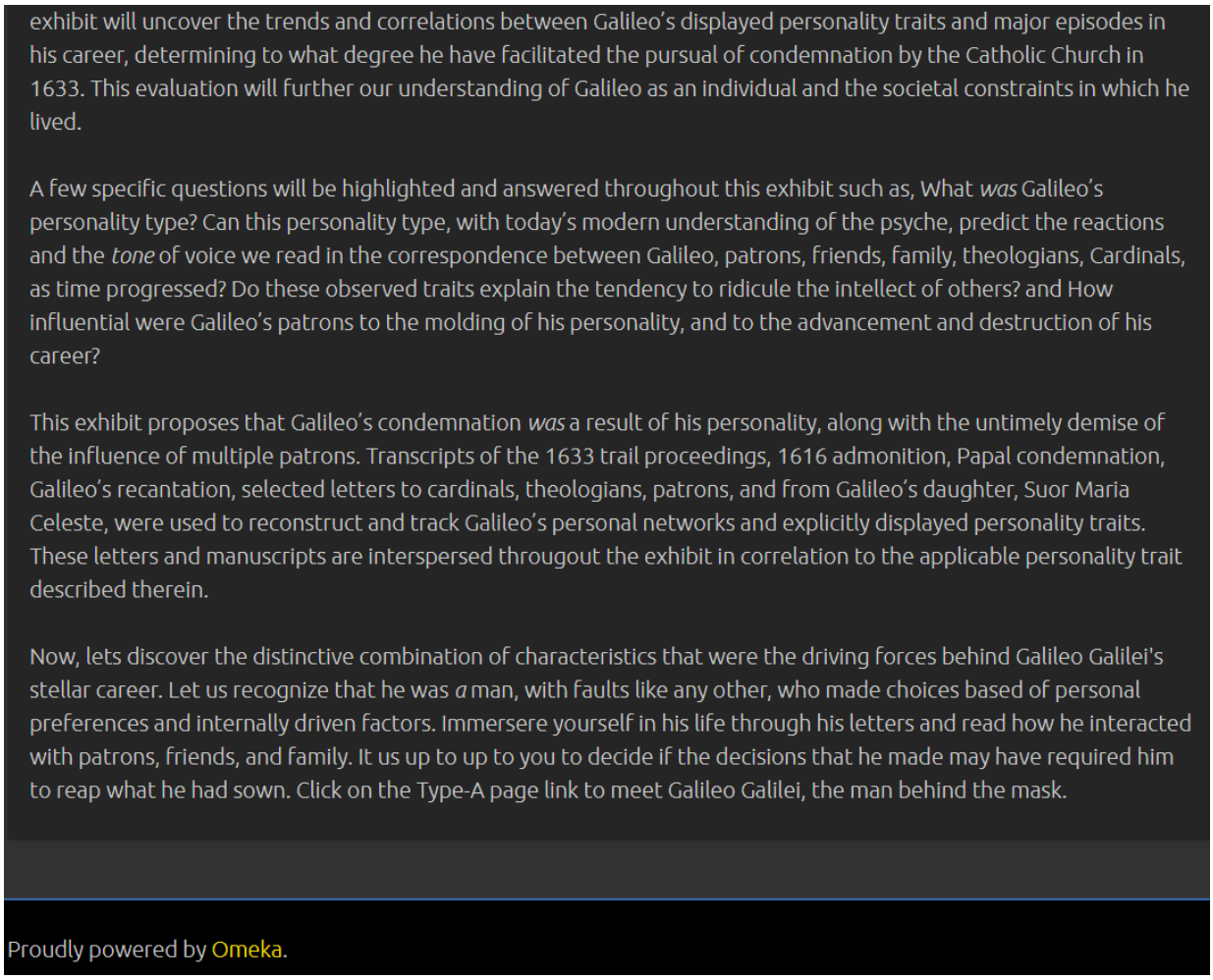


Figure 5: Introduction Panel Continued

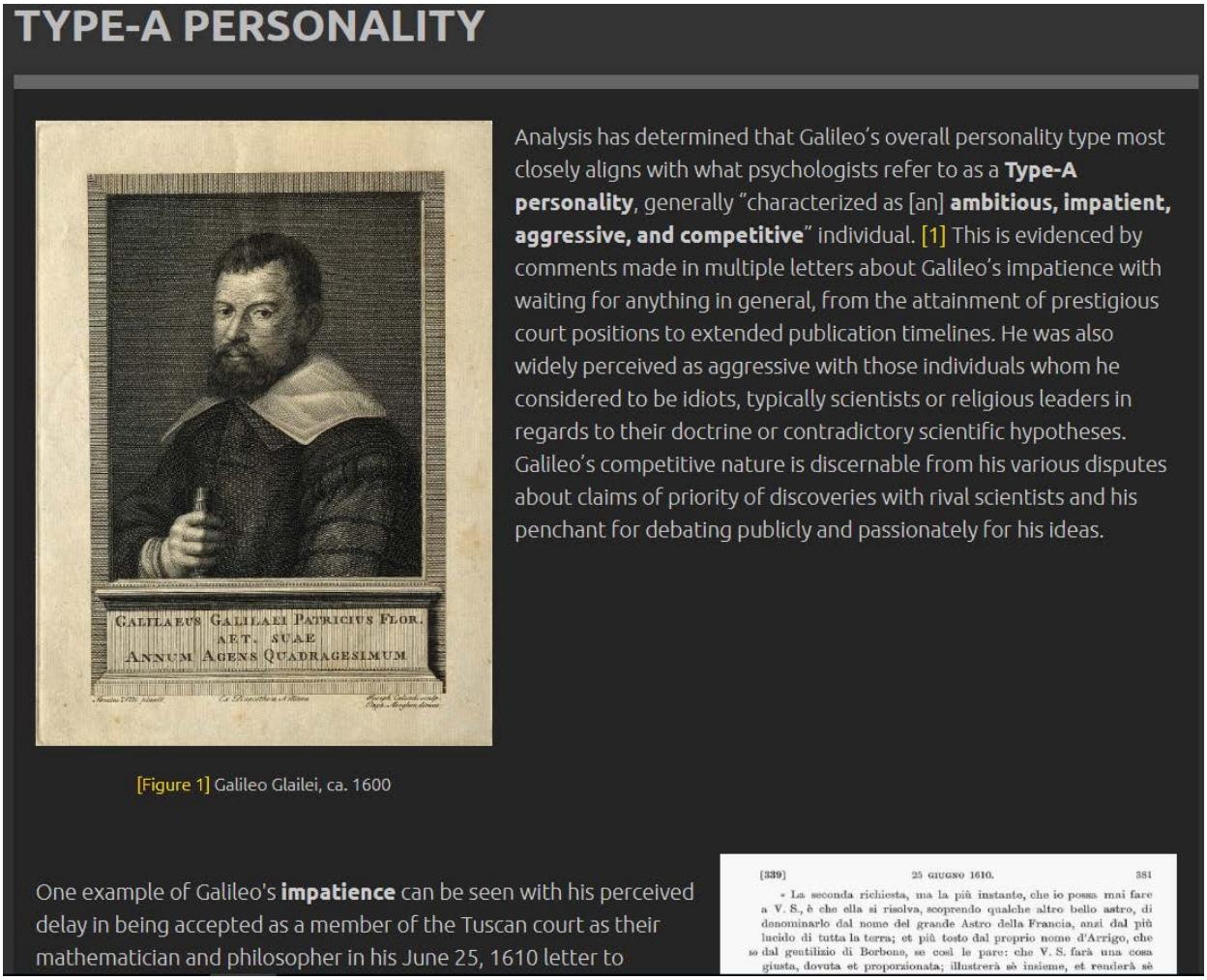
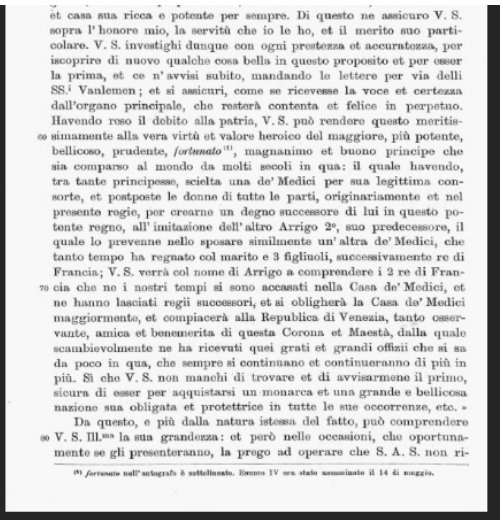


Figure 6: Type-A Personality

Vincenzo Giugni. He writes that "whenever possible, please make sure that Your Most Serene Highness would not delay the flight of fame by taking an ambiguous stand about what he has seen many times himself—something that fortune reserved to him and denied to everybody else."[2] Galileo was referring to Grand Duke Cosimo II's months-long deliberation of whether to accept him as a courtier and client, something Galileo believed should have been a forgone conclusion since he had dedicated the discovery of the four moons around Jupiter to his family's name, thereby increasing their fame and importance. Multiple scholars had confirmed this discovery, validated by the Medici family themselves, therefore Galileo was frustrated with this delay. He received the posting later that year in July of 1610, discussed further under the following section on Ambition.



ét casa sua ricca e potente per sempre. Di questo ne assicuro V. S. sopra l' honore mio, la servitù che io le ho, et il merito suo particolare. V. S. investighi dunque con ogni prestezza et accuratezza, per iscoprire di nuovo qualche cosa bella in questo proposito et per esser la prima, et ce n' avvisi subito, mandando le lettere per via delli SS.ri Vanlemen; et si assicuri, come se ricevesse la voce et certezza dall'organo principale, che resterà contenta et felice in perpetuo. Havendo reso il debito alla patria, V. S. può rendere questo meritissimamente alla vera virtù et valore heroico del maggiore, più potente, bellicoso, prudente, *fortunato* [1], magnanimo et buono principe che sia comparso al mondo da molti secoli in qua: il quale havendo, tra tante principesse, scielta una de' Medici per sua legittima consorte, et postposte le donne di tutte le parti, originariamente et nel presente regie, per crearne un degno successore di lui in questo potente regno, all' imitazione dell' altro Arrigo 2°, suo predecessore, il quale lo prevenne nello sposare similmente un' altra de' Medici, che tanto tempo ha regnato col marito e 3 figliuoli, successivamente re di Francia; V. S. verrà col nome di Arrigo a comprendere i 2 re di Francia che ne i nostri tempi si sono accasati nella Casa de' Medici, et ne hanno lasciati regii successori, et si obligherà la Casa de' Medici maggiormente, et compiacerà alla Republica di Venezia, tanto osservante, amica et benemerita di questa Corona et Maestà, dalla quale scambievolmente ne ha ricevuti quei grati et grandi offizii che si sa da poco in qua, che sempre si continuano et continueranno di più in più. Sì che V. S. non manchi di trovare et di avvisarmene il primo, sicura di esser per acquistarsi un monarca et una grande e bellicosa nazione sua obligata et protettrice in tutte le sue occorrenze, etc. »

Da questo, e più dalla natura istessa del fatto, può comprendere V. S. Ill.ma la sua grandezza: et però nelle occasioni, che opportunamente se gli presenteranno, la prego ad operare che S. A. S. non ri-

[1] *fortunato* nell' autografo è sottolineato. Enrico IV era stato assassinato il 14 di maggio.

[Figure 2] Letter to Vincenzo Giugni June 25, 1610

Delle Macchie Solari. 10

Del Sig. Galileo Galilei. 11

[Figure 3] *Istoria E Dimostrazioni Intorno Alle Macchie Solari,*

His most famous and influential "dispute," or competition, would be that of the *Sunspot Letters* debate of 1611 wherein Galileo shows both **impatience** and latent **aggression**; both recurring and prominent traits throughout his career. Galileo and the Jesuit Scholar Christopher Scheiner, from the Collegio Romano, debated in letters via a very influential mutual patron named Marc Welser. Galileo responded to letters from Welser asking him to critique the enclosed letters from Scheiner, under the pseudonym of Apelles, about his theories on sunspots and the claims made of who discovered them first. Galileo calmly refuted each of Apelles

Figure 7: Type-A Personality Continued

1613 findings in his initial response to Welser. Galileo's third refutation letter evidenced restrained impatience for Apelles conclusions, stating "I find some confusion, not to say inconsistency, for he returns to the old, commonly accepted Ptolemaic system as if it were true, having earlier shown he was aware that it was false."[3]

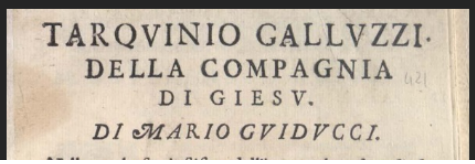
Galileo tempers his frustrations in his response to Welser on May 4, 1612 by acknowledging that Apelles had:

"a free and not a servile mind; he is well able to grasp true teaching, and now, prompted by the strength of so many new ideas, he is beginning to listen and to assent to true and sound philosophy, especially as regards the arrangement of the universe. But he is not yet able to detach himself completely from the fantasies he absorbed in the past, and to which his intellect returns and lends assent by force of long-established habit."[4]

[Figure 4] *Istoria E Dimostrazioni Intorno Alle Macchie Solari, by Galileo Galilei, 1613*

[Figure 5] *Tres Epistolae de Maculis Solaribus Scriptae ad Marcum Velserum, by Christopher Scheiner, 1612*

This temperance may be attributed to his concern for the social standing, or image and influence of Welser as patron to both Galileo and Apelles (Scheiner). It would not follow proper etiquette to outright call Apelles an idiot, at least not directly, only implicitly. The letters from both Scheiner and Galileo were subsequently published as books, *Tres Epistolae de Maculis Solaribus Scriptae ad Marcum Velserum* and *Istoria E Dimostrazioni Intorno Alle Macchie Solari*,respectively.[5] Apelles was henceforth referred to in multiple letters and published works, usually mockingly.



One such public mocking of Apelles was a lecture, credited as written by Galileo but was given by a student of Galileo's named Mario Guiducci at the Florentine Academy in 1612. This lecture was in response to previous lecture given by the Jesuit Orazio Grassi on

Figure 8: Type-A Personality Continued


Nella quale il giuditio dell'imputazioni dategli da
LOTTARIO SARSI Sigensano nella
Libra Astronomica, e Filosofica.

MISC 14

1679

578 14

IN FIRENZE,
Nella Stamperia di Zanobi Pignoni. 1620.
Con Licenzia de' Superiori.

[Figure 6] *Lettera Al M.R.P. Tarquinio Galluzzi Della Compagnia, by Mario Guiducci, 1620*

the comets of 1612. In this lecture Galileo, via Guiducci, calls Apelles (Scheiner) a "copyist" and refers to him as "someone who has tried to appropriate Galileo's inventions and who call themselves Appelleses [*sic*]."[6] In Galileo's preface to his book the *Assayer*, published in 1623, he referred to multiple individuals, some by name and others left anonymous, whom had tried to steal his claim of priority over the discovery of celestial phenomena. Although Galileo did not *name* Apelles in the preface, Scheiner nevertheless interpreted the remarks as being directed towards him. Scheiner therefore devoted his first publication, the *Rosa Ursina,* to an all-out attack on Galileo. Historians have repeatedly conjectured that this enmity toward Galileo was instrumental in starting the inquisitional process against him in 1633.


DEL SIG. GALILEI.

The above mentioned lecture, given at the Florentine Academy against Grassi's comet observations, refuted every point made by Grassi, as Galileo had previously done with Scheiner in the sunspots dispute. This, again as with Scheiner, resulted in a public dispute and an ensuing competition. Grassi published *The Astronomical Balance, On Which the Opinions of Galileo Galilei Regarding Comets are Weighed, As Well as Those Presented in the Florentine Academy by Mario Guiducci and Recently Published,* under the pseudonym of Lothario Sarsi to assert his hypotheses. Galileo responded in kind

Figure 9: Type-A Personality Continued

with his publication of the *Assayer* wherein he refuted all of Grassi's claims with critically acclaimed literary flare and witticism. At every turn throughout the *Assayer* there were comments referring to the pseudonym of Sarsi wherein Galileo declared him as confrontational and imaginative, alluding Sarsi's lack of intellect. Galileo remarks at the beginning of the *Assayer* that "most of the things he [Sarsi] undertakes to refute are not set forth by me but are divined (or better, let us say imagined) by him," implying that Sarsi's conclusions in the *Astronomical Balance* are in response to imagined slights, false observations, and improperly applied mathematics and astronomical theorems.[7]

[Figure 7] *Il Saggiatore* (the *Assayer*), by Galileo Galilei, 1623

Further evidence of Type-A traits are found throughout the preface to the *Assayer*. Galileo expounded at length on the offenses of Simon Mayr, who had a pupil, Baldessar Capra, publish the operations manual for Galileo's invention, the military compass. In the preface to this publication, Mayr claimed that he had invented the military compass. Galileo's comments below can be construed as both **competitive** and **aggressive**. He wrote:

"I show resentment and cry out, perhaps with too much bitterness, about a thing which I have kept to myself these many years. I speak of Simon Mayr of Guntzenhausen; he it was [*sic*] in Padua, where I resided at the time, who set forth in Latin the use of the Said compass of mine and, appropriating it to himself, had one of his pupils print it under his name."[8]

[Figure 8] The *Assayer* by Galileo Galilei, 1623

[Figure 9] Preface to the *Assayer* by Galileo Galilei, 1623

Mayr left town before Galileo could bring charges against him and so instead Galileo "was obliged to proceed in the manner which is set forth in the *Defense*" in which Galileo pressed charges against the pupil instead.[9] Here we see the displayed Type-A trait of **aggression**, especially towards those who criticized his works, and towards those who claimed to have discovered or invented something of his before him. Galileo's aggression is further evidenced in the preface when he states that this same Simon Mayr also claimed:

Figure 10: Type-A Personality Continued

"four years after the publication of my *Starry Messenger*, this same fellow, desiring as usual to ornament himself with the labors of others, did not blush to make himself the author of the things I had discovered and printed in that work. Publishing under the title of *The World of Jupiter*, he had the temerity to claim that he had observed the Medicean [*sic*] planets which revolve about Jupiter before I had done so."[10]

The examples listed above were selected to establish the applicability of the Type-A personality to Galileo. There are many more such examples, but to use them all would exceed the scope of this research. It is sufficient to say that the same types of conflicts ensued throughout his career, only with a different cast of characters, in slightly different settings, at regular intervals. Some of these conflicts will be elaborated in the following pages so as not to duplicate effort. Please visit the bibliogarphy page for further reading opportunities.

Figures

[Figure 1] Santi di Tito, *Galileo Galileo,* Ca. 1600, Wellcome Collection, accessed August 31, 2018, https://experience.wellcomecollection.org/works/f32mydkb?query=%22GALILEO%20GALILEI%22.

[Figure 2] Antonio Favaro, *Le Oepre di Galileo Galilei*, vol 10, no. 339, *Letter to Vincenzo Giugni*, June 25, 1610, 381-82, accessed August 12, 2018, https://ia600302.us.archive.org/21/items/agh6462.0010.001.umich.edu/agh6462.0010.001.umich.edu.pdf.

[Figure 3] Galileo Galilei, *Istoria E Dimostrazioni Intorno Alle Macchie Solari,* (Roma, Appresso Giacomo Mascardi, 1613), Biblioteca Nationale Centrale di Firenze, accessed August 11, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=367710&vis=D#page/28/mode/2up.

[Figure 4] Galilei, *Istoria E Dimostrazioni Intorno Alle Macchie Solari.*

Figure 11: Type-A Personality Continued

[Figure 5] Christopher Scheiner, *Tres Epistolae de Maculis Solaribus Scriptae ad Marcum Velserum,* (Augustae Vindelicorum: Ad Insigne Pinus, 1612), Carta 1r-7v, Biblioteca Nationale Centrale di Firenze, accessed August 6, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=367705&lang=en.

[Figure 6] Mario Guiducci, *Lettera Al M.R.P. Tarquinio Galluzzi Della Compagnia,* (Nella Stamperia di Zanobi Pignoni: Firenze, 1620), Museo Galileo, accessed August 30, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=367737&vis=D#page/2/mode/2up.

[Figure 7] Galileo Galilei, *Il Saggiatore,* (Roma, Appresso Giacomo Mascardi, 1623), Museo Galileo, accessed August 30, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=300984&vis=D#page/30/mode/2up.

[Figure 8] Galilei, *Il Saggiatore.*

[Figure 9] Galilei, *Il Saggiatore.*

Footnotes

[1] Bradley R. A. Wilson, "Type A Behavior Pattern," *Salem Press Encyclopedia Of Health* (2013): 1-4, accessed June 9, 2018, https://eds-b-ebscohost-com.ezproxy.snhu.edu/eds/detail/detail?vid=7&sid=960dbc21-59b9-45b4-a199-c816b49433e4%40sessionmgr101&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=93872316&db=ers.

[2] Antonio Favaro, *Le Oepre di Galileo Galilei,* Vol X, no. 339, *Letter to Vincenzo Giugni,* June 25, 1610, 381-82, accessed August 12, 2018, https://ia600302.us.archive.org/21/items/agh6462.0010.001.umich.edu/agh6462.0010.001.umich.edu.pdf, trans. Mario Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago & London: University of Chicago Press, 1993), 136.

Figure 12: Type-A Personality Continued

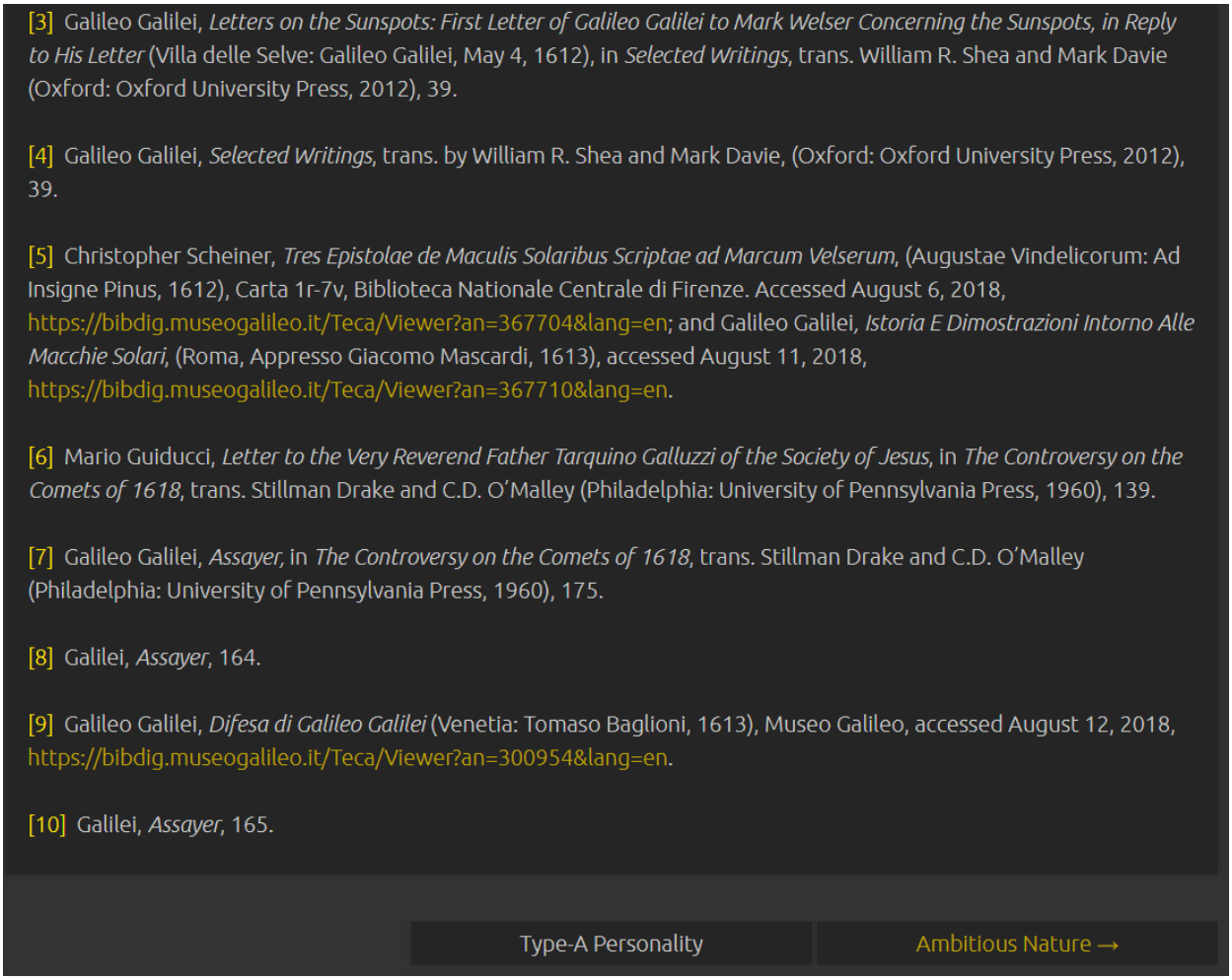


Figure 13: Type-A Personality Continued

AMBITIOUS NATURE

[Figure 1] Galileo Galileo, 1624

Psychologists characterize ***ambition*** as the "persistent and generalized striving for success, attainment, and accomplishment."[1] It is also reflective of the continual "striving for position and wealth and [does] not indicate strivings for general well-being and socioemotional acceptance."[2] Galileo exhibits this trait repeatedly throughout his career. He began as a mathematics tutor who then managed to obtain postings at the University of Pisa in 1589 and the University of Padua in 1592 as their mathematics chair.

In regards to the continual striving for wealth, mentioned above, Galileo received an increase in his salary in 1599 upon the reconfirmation of his Professor of Mathematics position at the University of Padua. The increase went from 180 Florins to 320 Florins.[3] In 1602 and in 1608, he was granted a full one year advance on his salary.[4] In 1609 the Venetian Senate, pressured by a patron of Galileo's, Antonio Priuli, voted on tenure for life and a salary increase to 1000 *scudi* for Galileo, but with a catch, he could never receive another raise in salary.[5]

Galileo was also repeatedly reported as an ambitious man by his contemporaries due to his continuous pursuit of the title of

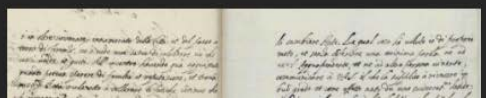
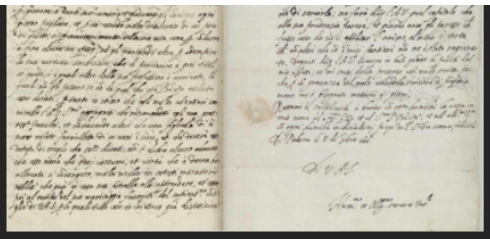


Figure 14: Ambitious Nature

"philosopher," a profession that had a markedly higher social status in society in comparison with that of mathematicians. To obtain this additional title and the prestige that would accompany it Galileo wrote a letter to Grand Duke Cosimo II's mother, Grand Duchess Christina di Lorena, on December 8, 1606, to ask for a position at the Tuscan court. Galileo remarked how his "thought really would be to achieve so much peace and quiet. That I could, before the end of my life, publish the 3 great works that I have at hand."[6] He continued by stating that these works were *new* sciences, emphasizing their ability to bring novelty and fame to the Medici name. His letter articulates further his desire for the position declaring:



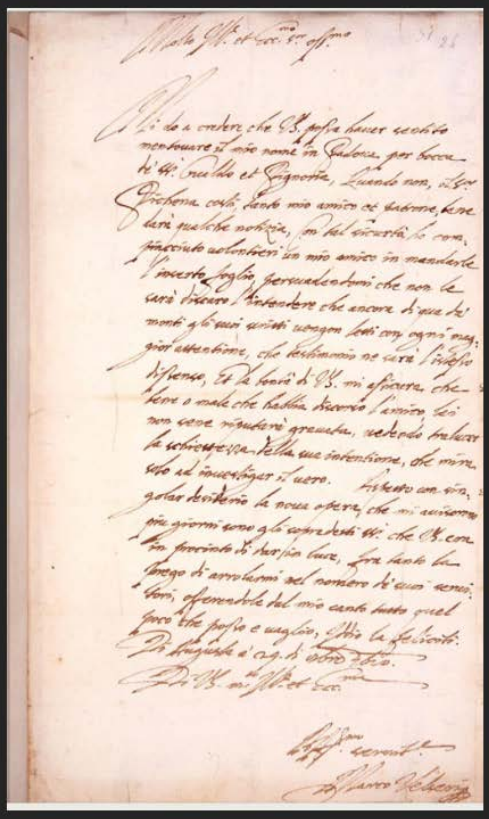
[Figure 2] Letter to Christina di Lorena from Galileo, December 8, 1606

"Perhaps the praise of those who hold me in high esteem, would allow a greater and more diurnal usefulness of the rest of my life. Greater than what I have here [Padua University]. I do not think I could have anywhere else...nor would I willingly exercise them in another city than in this one...requiring me to request this [position]...To obtain from a Republic [Venice], though splendid and generous, salaries without serving the public, does not come to fruition. To obtain usefulness from the public, one must satisfy the public...no one can exempt me from this burden...and in sum, similar comfort I cannot hope for, other than from an absolute prince [Cosimo II]."[7]

Eventually, Galileo obtained the title of Mathematician and Philosopher to Grand Duke Cosimo II in 1610, after his discovery of the four satellites around Jupiter, and the dedication of their discovery to Cosimo II in Galileo's publication, the *Sidereus Nuncius*.[8] This posting came with life tenure without the requirement to teach at the University of Padua, where he was still and would continue to be, the mathematics professor in absentia. It also came with an annual salary of one thousand *scudi*, a six hundred and eighty *scudi* increase from the salary he received at both the University of Pisa and Padua as their mathematics chair previously. Intriguingly, the salary did not come from the "Medici's treasury (the *Depositeria Generale*) but from the *Decime Ecclesiastiche* (the taxes on the Church properties in the grand duchy), which provided for the funds of the University of Padua," and so in effect, Galileo was paid by the University of Pisa, as noted above.[9] His was among the highest paid salaries of the Grand Duchy of

Figure 15: Ambitious Nature Continued

Tuscany at that period, and one's salary was a direct reflection of one's importance and social status.[10]



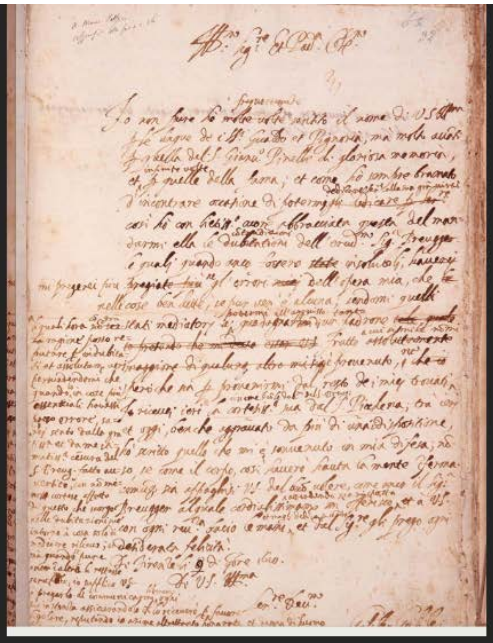
[Figure 3] Letter to Galileo form Wesler, October 29, 1610

Even with such a prominent patron, a client cannot depend on one patron alone as they could lose their power, die, or fall from grace. It behooved a client to have many patrons who could each advance one's position through different avenues. Galileo was no stranger to this requirement and he continuously sought out new patrons who would raise his social status and spread his name, and subsequently his fame. One influential patron outside of Italy, the previously mentioned Marc Welser, wrote to Galileo on behalf of a client of his to provide Galileo with a critique to his *Sunspot Letters*. Welser informed Galileo that he had "gladly complied with the desires of a friend of mine by sending you the enclosed paper, because I thought that it would not be unpleasant to see that even here beyond the Alps your books are being read with great attention, and that the very existence of disagreements testifies to this."[11]

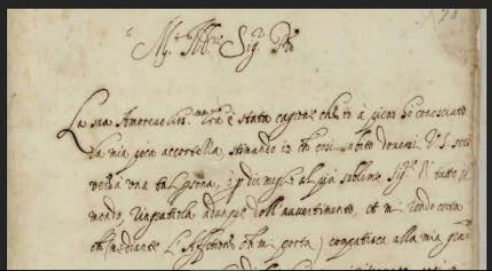
Figure 16: Ambitious Nature Continued

Galileo wrote back to Welser on November 8, 1610, thanking him in the courtliest terms, professing:

"I have always sought the occasion to dedicate myself to the service of your great virtue. Therefore I was most happy to receive from you the critiques from the most erudite Signor Brengger. In fact, even in case his criticisms prove unanswerable, I would still be more pleased by the errors in my work than by the truths, since it was through my errors that I gained a great patron."[12]

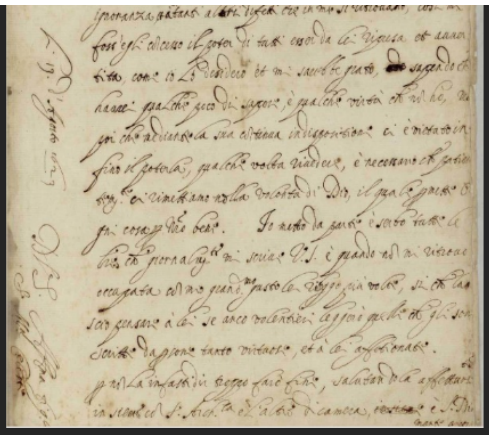


[Figure 4] Letter to Wesler from Galileo, November 8, 1610



When Galileo's primary patron, Grand Duke Cosimo II died in 1621, he left eleven year old Ferdinand II as the heir. Ferdinand would not reach his majority for another seven years and was thus unable to advance and or support Galileo's ambitions as his patron, although Ferdinand would remain Galileo's primary patron. This inability to advance Galileo's works required Galileo to seek patronage of equal or higher status elsewhere; he looked to Rome. He courted friend

Figure 17: Ambitious Nature Continued



[Figure 5] Letter to Galileo from Suor Maria Celeste, August 13, 1623

and occasional patron, Cardinal Maffeo Barberini, now Pope Urban VIII. We see through a letter from Galileo's daughter Suor Maria Celeste that Galileo could not write to the new pope directly due the gap between them in social status. Suor Maria Celeste writes that "it was through your most gentle and loving letter that I became fully aware of my backwardness, in assuming as I did that you, Sire, would perforce write right away to such a person, or to put it better, to the loftiest lord in all the world."[13]

The Pope had written to Galileo while still a Cardinal on June 24, 1623, about debts owed to him. Cardinal Barberini reaffirmed:

"I am much in your debt for your continuing goodwill towards myself and the members of my family [Galileo helped obtain a doctorate for his nephew Francesco], and I look forward to the opportunity of reciprocating. I assure you that you will find me more than ready to be of service in consideration of your great merit and the gratitude that I owe you."[14]

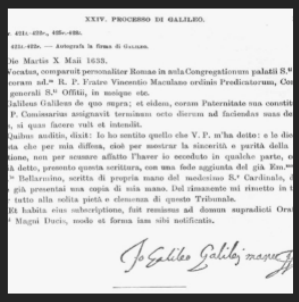
These "owed" favors procured the patronage of the *new* Pope along with Galileo's dedication of the *Assayer* to him in October 1623. The Pope granted him an unheard of amount of audiences, six in as many weeks, to show his acceptance of Galileo as a preferred client.[15] There are numerous letters to and from Galileo that recount these visits wherein Galileo states that he believes that he could now speak, or write, freely on the subject of

Figure 18: Ambitious Nature Continued

Copernicanism, a misunderstanding that would be his downfall.

Galileo's publication of the *Dialogue Concerning the Two Chief World Systems* in 1632 was the result of this misunderstanding and it accelerated his path towards condemnation. The death of Galileo's friend and patron, Prince Federico Cesi in 1630, had delayed the publication of the *Dialogue* until 1632, in the midst of a highly unstable political atmosphere. Although Galileo had been a favorite client of the pope, it had been suggested to Pope Urban VIII that the *Dialogue* ridiculed him, and therefore his position and power by association. The *Dialogue* also discussed Copernicanism as if it were a reality rather than as a hypothesis; contradicting the decree from the Church in 1616 wherein it was required for Copernicanism to be treated as a hypothesis only. This suggestion of ridicule was a pernicious one and it took root in the pope's mind. This thought, combined with the already widely perceived heretical doctrines contained within the *Dialogue*, led Pope Urban VIII to the decision to condemn him. Additionally, the recent deaths of multiple prominent patrons of Galileo's in Rome, the animosity from the Jesuits (incurred and discussed above under the Type-A personality section), and the distance of his primary patrons in Florence, all but predetermined a heretical verdict.

Galileo confessed himself as having "vain ambition" as part of his second deposition during his Inquisitional trial on April 30, 1633.[16] In Galileo's *Defense*, on May 10, 1633, he also depicts his actions in the printing of his work the *Dialogue*, as being introduced through the "vain ambition and satisfaction of appearing clever above and beyond the average among popular writers."[17] Galileo's Inquisitional sentencing, on June 22, 1633, indicated that the Inquisitional trial members felt that Galileo would have them believe that he wished them to attribute his errors to "conceited ambition rather than to malice" for printing on a topic he had been forbidden to discuss,


XXIV. PROCESSO DI GALILEO.

[Figure 6] Galileo's Third Deposition, May 10, 1633

Figure 19: Ambitious Nature Continued

teach, defend, or hold in 1616 under the precept (order) given to him by Cardinal Bellarmine.[18]

[Figure 7] Letter to Glaileo from Suor Maria Celeste, October 3, 1633

The trial members, via our own ability to see Galileo's private correspondence, got it right. He had intended to show the Copernican system as true and he had been ordered not to teach or defend the topic, yet had done so anyhow. Galileo's status as a very prominent client of Grand Duke Ferdinand II, and the ties that Pope Urban VIII had with the Duke as a native of Tuscany, reduced the severity of Galileo's sentence drastically. He was found vehemently suspected of heresy, sentenced to house arrest, and required to say the seven penitential psalms once a week for the next three years.[19] The latter was taken up and carried out, with permission, by his daughter Suor Maria Celeste. Maria wrote on October 3, 1633, that she had found "a means of being able to do you good, Sire, in some very small way; that is by taking upon myself the obligation you have to recite one time each week the seven psalms, and I have already begun to fulfill this requirement."[20]

The above selected excerpts are only a cursory overview of Galileo's ambitious nature. To thoroughly evaluate each and every instance would be a research quest in and of itself, best saved for a future research opportunity. Although this paper aimed to end the evaluation of Galileo in 1633, it is of note to make the reader aware that Galileo continued to have ambitious tendencies even after his sentencing. His most famous work, The *Discourse on the Two New Sciences*, was published without permission from the Pope by smuggling it out to the Dutch publisher Louis Elsevier in 1636; it was subsequently printed in 1638.[21]

Figure 20: Ambitious Nature Continued

Figures

[Figure 1] O. Leoni, *Galileo Galilei*, 1624, Wellcome Collection, accessed August 31, 2018, https://experience.wellcomecollection.org/works/rf8nbbqk?query=%22GALILEO%20GALILEI%22.

[Figure 2] Galileo Galilei, *Letter to Christina di Lorena,* December 8, 1606, Gal 14 – II., Galilei Galileo, 4, Carta 19r-20v, Biblioteca Nationale Centrale di Firenze, accessed August 6, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=18269&vis=D#page/36/mode/2up.

Figure 3] Marc Welser, *Letter to Galileo,* October 29, 1610, Gal 53 – II, Galileo, III.7.1. Galilei Galileo, Astronomia, Carta 24r., Biblioteca Nationale Centrale di Firenze, accessed August 6, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19838&vis=D#page/50/mode/2up.

[Figure 4] Galileo Galilei, *Letter to Welser,* November 8, 1610, Gal 53 – II, Galileo, III.7.1, Galilei Galileo, 43, Astronomia, Carta 32r-32v, Biblioteca Nationale Centrale di Firenze, accessed August 6, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19838&vis=D#page/66/mode/2up.

[Figure 5] Suor Maria Celeste Galilei, *Letter to Galileo,* August 13, 1623, Gal 23 – II, Galileo, I.13, Galilei Galileo, 13, Lettere Familiari, Carta 28r-29v, Biblioteca Nationale Centrale Firenze, accessed August 14, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19389&vis=D#page/52/mode/2up.

[Figure 6] *Galileo's Third Deposition*, May 10, 1633, in *Le Opere di Galileo*, vol. XIX, ed. by Antonio Favaro, 345, accessed August 31, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=354826&vis=D#page/346/mode/2up, in *The Trial of Galileo: Essential Documents*, trans. by Maurice A. Finocchiaro, (Indianapolis, Indiana: Hackett Publishing Company, 2014), 130-31.

[Figure 7] Suor Maria Celeste Galilei, *Letter to Galileo,* October 3, 1633, Gal 23 – II, Galileo, I.13, Galilei Galileo, 13, Lettere Familiari, Carta 235r-36v, Biblioteca Nationale Centrale Firenze, accessed August 31, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19389&vis=D#page/468/mode/2up.

Figure 21: Ambitious Nature Continued

Footnotes

[1] Timothy A. Judge and John D. Kammeyer-Mueller, "On the Value of Aiming High: the Causes and Consequences of Ambition," *Journal Of Applied Psychology* no. 4 (2012): 758-775, accessed June 4, 2018, https://eds-b-ebscohost-com.ezproxy.snhu.edu/eds/pdfviewer/pdfviewer?vid=2&sid=a0eda05d-dd9d-482b-b1c7-b128303625ba%40sessionmgr103.

[2] Judge and Kammeyer-Mueller, "On the Value of Aiming High," 759.

[3] *Minutes of the Venetian Senate*, October 28, 1599, *Le Opere di Galileo*, vol. XIX, 112-13, accessed August 21, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=354826&vis=D#page/122/mode/2up, in *Sidereus Nuncius or a Sidereal Message*, trans. William R. Shea (Sagamore Beach: Washington Publishing International LLC, 2009), 6.

[4] *Letters of the Overseers to the Rectors of Padua,* February 20, 1603 and April 19, 1608, *Opere di Galileo*, vol. X, no. 89, 103-04 and no. 184, 202, accessed August 21, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=354813&vis=D#page/212/mode/2up, in *Sidereus Nuncius or a Sidereal Message*, trans by William R. Shea (Sagamore Beach: Washington Publishing International LLC, 2009), 6.

[5] *Minutes of the Venetian Senate*, August 25, 1609, *Le Opere di Galileo*, vol. XIX, 115-16, accessed August 21, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=354826&vis=D#page/124/mode/2up, in *Sidereus Nuncius or a Sidereal Message*, trans. William R. Shea (Sagamore Beach, Massachusetts: Washington Publishing International LLC, 2009), 7.

[6] Galileo Galilei, *Letter to Christina di Lorena*, December 8, 1606, trans. Krystle D. Lindamood, ed. by Antonio Favaro, *Le Opere di Galielo*, vol X, no. 209, 231-34, accessed August 6, 2018, https://ia600302.us.archive.org/21/items/agh6462.0010.001.umich.edu/agh6462.0010.001.umich.edu.pdf.

[7] Galilei, *Letter to Christina di Lorena.*

[8] Galileo Galilei, *Sidereus Nuncius or a Sidereal Message*, trans. William R. Shea (Sagamore Beach: Washington Publishing International LLC, 2009).

Figure 22: Ambitious Nature Continued

[9] Mario Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago & London: University of Chicago Press, 1993), 159.

[10] Biagioli, *Galileo, Courtier*, 104.

[11] Marcus Welser, *Letter to Galileo*, October 29, 1610, Gal 53 – II, Galileo, III.7.1, Galilei Galileo, 43, Astronomia, Carta 24r, Biblioteca Nationale Centrale di Firenze, accessed August 6, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19838&vis=D#page/50/mode/2up, trans. Mario Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago & London: University of Chicago Press, 1993), 69.

[12] Galileo Galilei, *Letter to Welser*, November 8, 1610, Gal 53 – II, Galileo, III.7.1, Galilei Galileo, 43, Astronomia, Carta 32r-32v, Biblioteca Nationale Centrale di Firenze, accessed August 6, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19838&vis=D#page/66/mode/2up, trans. Mario Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago & London: University of Chicago Press, 1993), 69.

[13] Dava Sobel, *Letters to Father: Suor Maria Celeste to Galileo 1623-1633* (New York: Walker & Co, 2001), 5.

[14] William R. Shea and Mariano Artigas, *Galileo in Rome: The Rise and Fall of a Troublesome Genius* (Oxford, NY: Oxford University Press, 2003), 97.

[15] William R. Shea and Mariano Artigas, *Galileo Observed: Science and the Politics of Belief* (Sagamore Beach: Science History Publications, 2006), 150-52.

[16] Shea and Artigas, *Galileo Observed*, 98.

[17] Maurice A. Finocchiaro, *The Trial of Galileo: Essential Documents* (Indianapolis: Hackett Publishing Company, 2014), 132.

Figure 23: Ambitious Nature Continued

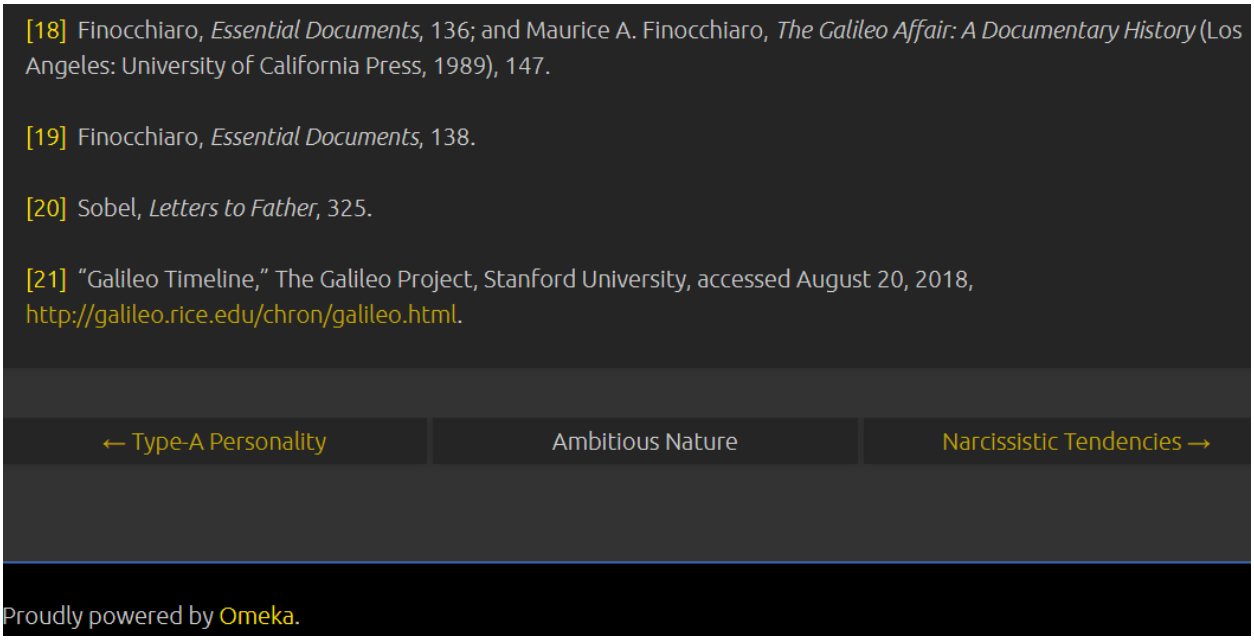


Figure 24: Ambitious Nature Continued

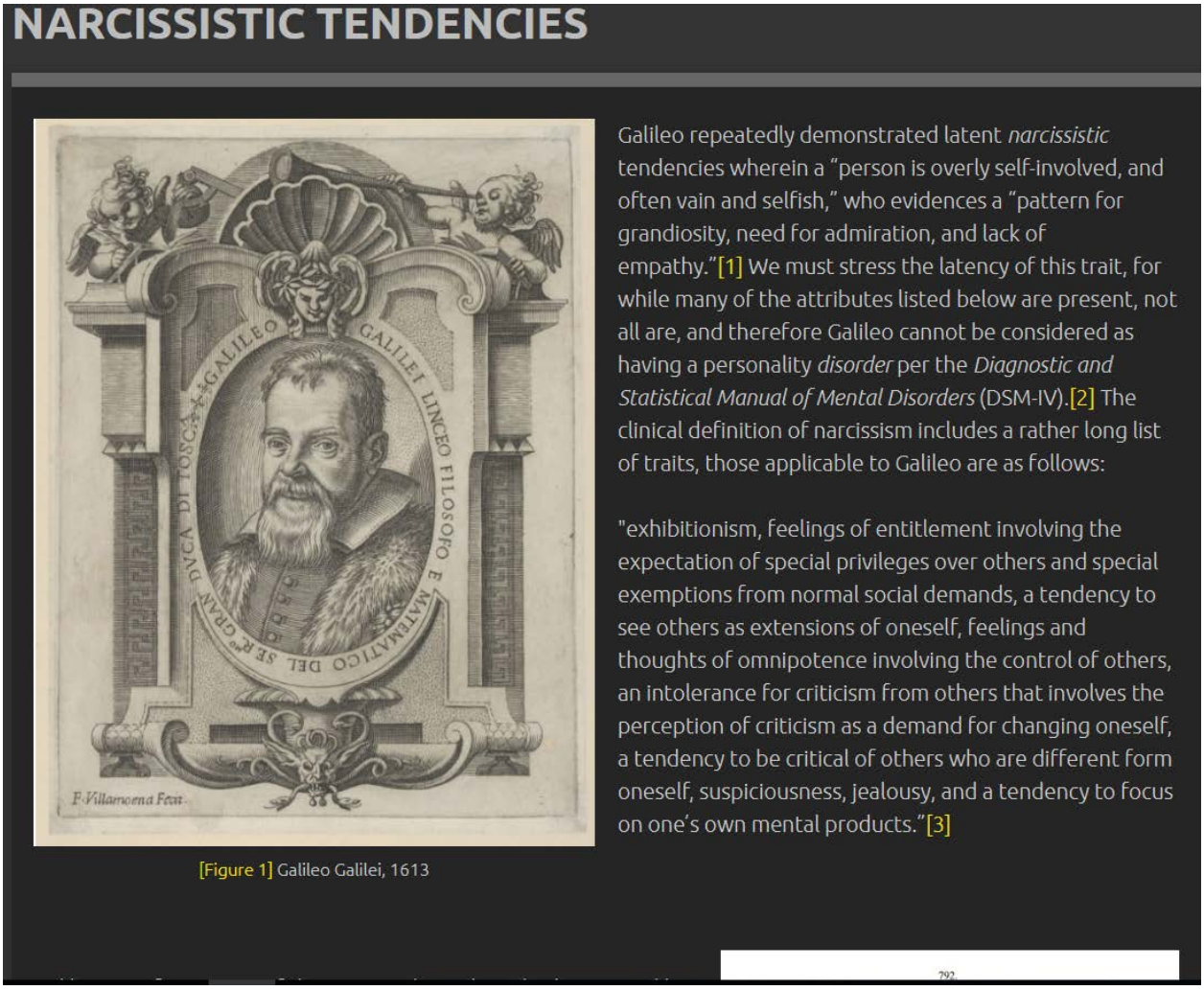


Figure 25: Narcissistic Tendencies

Galileo manifests many of these traits throughout his letters and his published works mainly in the last bullet where his attitudes affect his relationships with others. Florentine Ambassador Piero Guicciardini noted how on multiple occasions Galileo "relied more on his own counsel than on that of his friends," especially when it came to his controversial belief of Copernicanism. [4] Galileo also displayed a strong intolerance for criticism from fellow scientists, religious authorities, and patrons. When criticized, even constructively, he either ignored the letter completely, or responded as if it was a personal attack, as with the *Sunspot Letters* mentioned in the Type-A personality section.

In a letter that Galileo wrote to one of his patrons and close friend, Prince Federico Cesi, on November 4, 1612, he discussed an impending response to the debate on the *Sunspots Letters* that Cesi wished to have published. In his response, we note that he remarks upon resentment, but we can also see his intolerance for the criticism received from Scheiner about his views and his "difficulty" in being civil in his responses to said criticism. Galileo wrote:

792.

GALILEO a [FEDERICO CESI in Roma].
Le Selve, 4 novembre 1612.

Bibl. della R. Accademia dei Lincei in Roma. Mss. n.° 12 (già Cod. Boncompagni 580), car. 136. – Autografo.

Ill.mo et Ecc.mo Sig.re e Pad.r Col.mo

Ho ricevuto grandissimo alleggerimento dall'intender, per l'ultima di V. E.[1100], la ricevuta delle mie, che per la tardanza gl'avevano data occasione di querelarsi della dilazione nel mandar fuori le Lettere Solari, il che rincresce a me ancora; ma non posso farci altro, perchè varie occupazioni, e le molte cose che mi passano per la testa per altre occasioni ancora, non mi lasciano esser tutto qui. Credevo con questo ordinario mandargli la terza, ma non l'ho ancora finita, riuscendomi più lunga di quello che credevo: ma non per questo si pigli pensiero che mi venga usurpato molto, perchè spero di far vedere quanto sciocchemente sia stata trattata questa materia dal G.[1101], col quale voglio far quel risentimento che conviene; ma il volerlo far senza disgusto del S. V.[1102] mi apporta difficoltà non piccola, e mi è cagione di tardanza. V. E. l'ha benissimo accompagnato con quell'altro *eiusdem ordinis*[1103]. Ma si stupirebbe oltre a modo se vedesse una lunga scrittura che questo medesimo mi ha mandato ultimamente, in risposta di quella mia che gli capitò in mano; dove è cosa mirabile il veder l'audacia e franchezza con la quale e' persiste in

[1099] *me avo dato* – [CORREZIONE]
[1100] GIO. BATTISTA AMADORI.
[1101] *Galileo* – [CORREZIONE]
[1102] Cfr. n.° 788.
[1103] Intendi «Gesuita», e cfr. n.i 788 e 795.
[1104] Intendi «Sig. VELSERO».
[1105] Cfr. n.° 788.

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asserire, quella materia essere stata da lui trattata diversissimamente da quello che la scrissi io, ancor che possa costare ad ogn'uno che e' l'ha copiata dal mio Nunzio. Certo che son restato storditissimo in veder la resolutezza che egli usa meco, come si dice, a quattr'occhi, e penso ciò ch'e' direbbe per difendersi in palese.

Solleciti pur V. E. quanto può la pubblicazione, che la 3ª lettera sarà finita fra 4 giorni, e gliela manderò insieme con quelle del S. Velsero. La ragione che mi adduce in proposito del titolo[1104], mi appaga: però accomodilo come più gli piace, che di tutto mi rimetto, come sempre ho fatto, al suo prudentissimo consiglio.

Desidero che nella prima lettera, 20 versi in circa dopo che comincio a trattar di Venere, aggiunga dopo le parole *meno che la sesta parte di quello che si mostrerà nell'occultazione*, aggiunga, dico: *mattutina, o esorto vespertino*[1106].

Il Sig. Filippo[1106] bacia le mani a V. E., e va scrivendo a i fratelli[1107]. Et io con ogni reverenza gli bacio le mani, e dal S. Dio gli prego felicità.

Dalle Selve, li 4 di 9bre 1612.
Di V. E. Ill.mo
Ser.re Obblig.mo
Galileo Galilei, Linceo.

[Figure 2] Letter to Prince Federico Cesi from Galileo, November 4, 1612

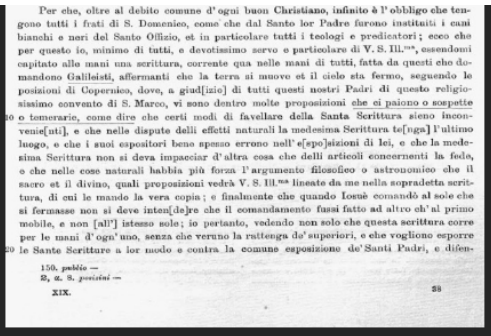
"I hope to expose the silliness with which this matter has been treated by the Jesuit [Orazio Grassi]. I want to make this resentment known, but the desire to do so without insulting Signor Welser is causing me no small difficulty and is the cause of my being late… it is admirable to see the audacity and frankness with which he persists in asserting his position…of course I would be very stunned to see him say these things to my face."[5]

α) Car. 843r. — 847r.

α) Car. 843v.-r. — Questa lettera di Niccolò Lorini non è autografa.

The Sunspot Letters would become the source documents for the

Figure 26: Narcissistic Tendencies Continued



Per che, oltre al debito comune d' ogni buon Christiano, infinito è l' obbligo che tengono tutti i frati di S. Domenico, come che dal Santo lor Padre furono instituiti i cani bianchi e neri del Santo Offizio, et in particolare tutti i teologi e predicatori; ecco che per questo io, minimo di tutti, e devotissimo servo e particolare di V. S. Ill.ma, essendomi capitato alle mani una scrittura, corrente qua nelle mani di tutti, fatta da questi che domandono Galileisti, affermanti che la terra si muove et il cielo sta fermo, seguendo le posizioni di Copernico, dove, a giud[izio] di tutti questi nostri Padri di questo religiosissimo convento di S. Marco, vi sono dentro molte proposizioni che ci paiono o sospette o temerarie, come dire che certi modi di favellare della Santa Scrittura sieno inconvenie[nti], e che nelle dispute delli effetti naturali la medesima Scrittura te[nga] l'ultimo luogo, e che i suoi espositori beno spesso errono nell' e[spo]sizioni di lei, e che la medesima Scrittura non si deva impacciar d'altra cosa che delli articoli concernenti la fede, e che nelle cose naturali habbia più forza l'argumento filosofico o astronomico che il sacro et il divino, quali proposizioni vedrà V. S. Ill.ma lineate da me nella sopradetta scrittura, di cui le mando la vera copia; e finalmente che quando Iosuè comandò al sole che si fermasse non si deve inten[de]re che il comandamento fussi fatto ad altro ch' al primo mobile, e non [all'] istesso sole; io pertanto, vedendo non solo che questa scrittura corre per le mani d' ogn' uno, senza che veruno la rattenga de' superiori, e che vogliono esporre le Sante Scritture a lor modo e contra la comune esposizione de' Santi Padri, e difen-

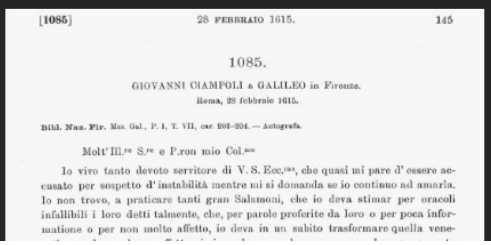
150. *pubblic* —
2, a. S. *gennaio* —
XIX. 38

[Figure 3] Letter from Niccolo Lorini to Cardinal Sfondrati, February 1615

investigation into Galileo and his possibly heretical views via the Dominican friar, Niccolò Lorini, who is credited with the first denouncement of Galileo to the Congregation of the Index in 1615. Lorini had reviewed the letter that Galileo had written to Benedetto Castelli in reference to Copernicanism which would later be expanded and become the famous Letter to the Grand Duchess Christina.[6] Lorini called for an investigation into the views of the "Galileists," carefully avoiding singling out Galileo. Lorini stated that the Galileists were "good people and good Christians, if a just a shade too arrogant."[7] He made references to the Galileists position that "Scripture take[s] the last place in disputes about natural effects and that astronomical arguments count[ed] for far more than biblical statements," which led to further investigations into Galileo's previously mentioned *Sunspot Letters* as possible heretical documents.[8]

Galileo had many highly placed friends and patrons in Rome (Piero Dini, Giovanni Ciampoli, Benedetto Castelli, Cardinal Maffeo Barberini) who were able to convince the Holy Office not to condemn Galileo himself for his Copernican views, as that would reflect badly on Grand Duke Cosimo II, but to prohibit the Copernican doctrine itself. Effectively receiving *special favors* due to his position as the Grand Duke's mathematician and philosopher, reinforcing Galileo's' personal perception of impunity. He would also receive special treatment during his trial in 1633, discussed further below.

In a letter from Ciampoli dated February 27, 1615, Galileo was relayed cautions from a discussion Ciampoli had with Cardinal Bellarmine. Cardinal Bellarmine expressed that the "opinions" of the Copernican view should be handled with "greater caution in not going beyond the arguments used by Ptolemy and Copernicus and, finally in not exceeding the limitations of physics and mathematics,"



[1085] 28 FEBBRAIO 1615. 145

1085.

GIOVANNI CIAMPOLI a GALILEO in Firenze.
Roma, 28 febbraio 1615.

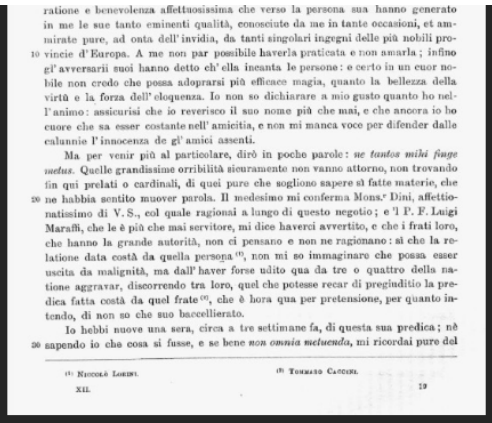
Bibl. Naz. Fir. Mss. Gal., P. I, T. VII, car. 203-204. — Autografa.

Molt' Ill.re S.re e P.ron mio Col.mo

Io vivo tanto devoto servitore di V. S. Ecc.ma, che quasi mi pare d' essere accusato per sospetto d' instabilità mentre mi si domanda se io continuo ad amarla. Io non trovo, a praticare tanti gran Salamoni, che io deva stimar per oracoli infallibili i loro detti talmente, che, per parole proferite da loro o per poca informatione o per non molto affetto, io deva in un subito trasformare quella vene-

Figure 27: Narcissistic Tendencies Continued

as theologians will amplify and distort these views to their advantage and his detriment.[9] Although Lorini's denouncement did not bring any convictions down on Galileo at this point, it would reappear as a referenced document in his trial in 1633.



ratione e benevolenza affettuosissima che verso la persona sua hanno generato in me le sue tanto eminenti qualità, conosciute da me in tante occasioni, et ammirate pure, ad onta dell' invidia, da tanti singolari ingegni delle più nobili provincie d' Europa. A me non par possibile haverla praticata e non amarla; infino gl' avversarii suoi hanno detto ch' ella incanta le persone: e certo in un cuor nobile non credo che possa adoprarsi più efficace magia, quanto la bellezza della virtù e la forza dell' eloquenza. Io non so dichiarare a mio gusto quanto ho nell' animo: assicurisi che io reverisco il suo nome più che mai, e che ancora io ho cuore che sa esser costante nell' amicitia, e non mi manca voce per difender dalle calunnie l' innocenza de gl' amici assenti.

Ma per venir più al particolare, dirò in poche parole: *ne tantos mihi fuge metus*. Quelle grandissime orribilità sicuramente non vanno attorno, non trovando fin qui prelati o cardinali, di quei pure che sogliono sapere sì fatte materie, che ne habbia sentito muover parola. Il medesimo mi conferma Mons.r Dini, affettionatissimo di V. S., col quale ragionai a lungo di questo negotio; e 'l P. F. Luigi Maraffi, che le è più che mai servitore, mi dice haverci avvertito, e che i frati loro, che hanno la grande autorità, non ci pensano e non ne ragionano: sì che la relatione data costà da quella persona (1), non mi so immaginare che possa esser uscita da malignità, ma dall' haver forse udito qua da tre o quattro della natione aggravar, discorrendo tra loro, quel che potesse recar di pregiuditio la predica fatta costà da quel frate (2), che è hora qua per pretensione, per quanto intendo, di non so che suo baccellierato.

Io hebbi nuove una sera, circa a tre settimane fa, di questa sua predica; nè sapendo io che cosa si fusse, e se bene *non omnia metuenda*, mi ricordai pure del

(1) Niccolò Lorini. (2) Tommaso Caccini.

XII. 19

[Figure 4] Letter to Galileo from Ciampoli, February 28, 1615

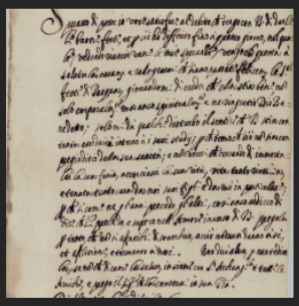
Galileo becomes noticeably more aggressive in his subsequent published works towards those opposed to his Copernican view of the heavens. He explains his right to be so blunt, frank, and aggressive in his preface to his book the Assayer, translated by Stillman Drake in his book The Controversy on the Comets of 1618.[10] Galileo states that leaving the "mask" on, the pseudonym of the writer he is responding to allowed him to:

"deal with him as an unknown person...[to] gain a wider field in which to make my arguments plainer and explain my ideas more freely…I believe in addition that just as he, thus unknown, has allowed himself to say some things against me which to my face he would perhaps not say, so it ought not to be taken amiss if I, availing myself of the privilege accorded against masqueraders, deal with him quite freely. Nor should he or anyone else suppose me to be weighing my every word when perhaps I may speak more frankly than will please him."[11]

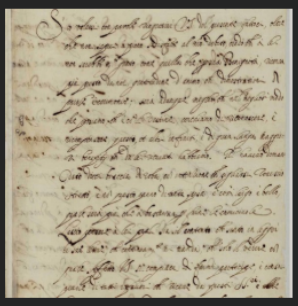
This reply was originally intended to be a letter to Grand Duke Cosimo II, as was required by patron etiquette.

Figure 28: Narcissistic Tendencies Continued

According to a remark of Galileo's in his preface to the *Assayer*, he stated "I found that the matters contained in his [Grassi's] essay which required some attention multiplied under my hands, and I have been compelled to pass far beyond the bounds of a letter…It has been my thought to call it [the book] the Assayer."[12] As previously noted, the *Assayer* was dedicated to Pope Urban VIII as a gift for his new position in 1623 in the hopes that he would also become Galileo's patron. Both the *Sunspot Letters* combined with the *Assayer* alienated Jesuit scholars from Galileo, sowing the seeds of resentment between him and the Jesuits when before they had readily supported his scientific discoveries.



[Figure 5] Letter to Galileo from Suor Maria Celeste, April 6, 1630



[Figure 6] Letter to Galileo from Suor Maria Celeste, October 28, 1623

This acceptance by the Pope to take Galileo on as a client and support his works exacerbated Galileo's *self-aggrandizement* tendencies. Suor Maria Celeste, in a letter to Galileo on October 29, 1623, remarked on the "delight I derive from reading the continuous stream of letters you send me; when I see how affectionately you share these with me, Sire, and how you enjoy making me aware of all the favors bestowed upon you by the great lords…"[13]

Suor Maria Celeste wrote again to Galileo on April 6, 1630, that it was disturbing her greatly to hear:

"how assiduously you are attacking your scholarly work, Sire, because I fear that this behavior is not without risk to your health. And I would not want you, while seeking to immortalize your fame, to cut short your life; a life held in such reverence and treasured so preciously by us your children, and by me in particular."[14]

Although this is obviously written out of concern for his health, the remark she makes about Galileo seeking to immortalize his fame is telling. Maria was well aware of how important her father and his scientific work was and how much he worried about what the world, his patrons, and other great lords thought of him. The work that was jeopardizing his health was none other than that of the *Dialogue*. As mentioned in the ambition section, the *Dialogue* was what cemented the pope's decision to pursue condemnation. It was also the sole book of Galileo's referred to

Figure 29: Narcissistic Tendencies Continued

during his trial, although other works of his also had Copernican leanings, like his *Assayer*.

[Figure 7] Galileo's First Deposition, April 12, 1633

During Galileo's trial in 1633, he repeatedly stated that he had been informed that the Copernican opinion "could neither be held nor defended, but it could be taken and used suppositionally [*sic*]," as transcribed from his first deposition on April 12, 1633.[15] Further in this same deposition, Galileo may have had a slip of the tongue. He affirmed "I do not recall that I was told anything else," that he was "saying freely what I recall because I do not claim not to have in any way violated that injunction, that is, not to have held or defended at all the said opinion of the earth's motion and sun's stability;" the double negative is explicit in the original sentence. A little further into the deposition, in regards to the printing of the *Dialogue*, Galileo reasserts that "I had neither held nor defended the opinion of the earth's motion and the suns' stability; on the contrary, in the said book I show the contrary of Copernicus's opinion," a statement he later contradicts in his second deposition.[16]

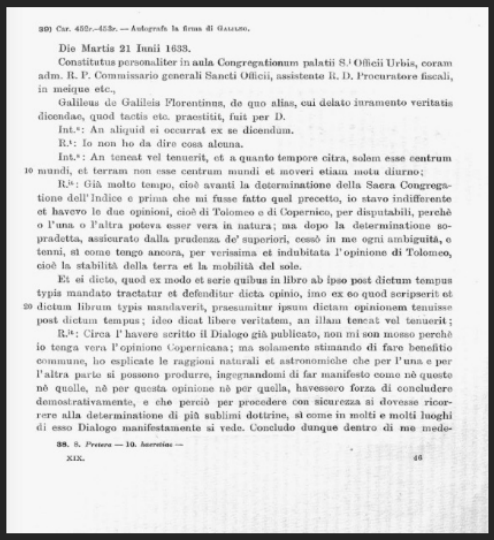
[Figure 8] Galileo's Second Deposition, April 30, 1633

Contrary to the stated refusal of change for a narcissistic personality, Galileo does recant in his second deposition. He recognized the need to at least go on record as having changed his opinions to receive a lesser sentence. He gave testimony that he had reexamined his *Dialogue* and "found it almost a new book by another author," that if he could rewrite the book, he would weaken the arguments "in such a way that they could not appear to exhibit a force which they really and essentially lack."[17] Galileo ends this second deposition with the statement that "for greater confirmation that I neither did hold nor do hold as true the condemned opinion of the earth's motions and sun's stability, if, as I

Figure 30: Narcissistic Tendencies Continued

desire, I am granted the possibility and the time to prove it more clearly, I am ready to do so."[18] There is an overtone of an expectation for special treatment in his request to edit and republish the *Dialogue*, a favor that has never been accorded to any other accused heretic whose works had also been condemned.

What is most intriguing is that there is a letter written by Galileo dated March 12, 1614, to Giovanni Battista Baliani, wherein he confirms "as far as the opinion of Copernicanism is concerned, I really hold it to be certain," leading to the above conclusion that he changed his opinion only to reduce his sentence.[19] This is contradicted again in his fourth deposition on June 21, 1633, where he stated that he "held, as I still hold, as very true and undoubted Ptolemy's opinion, namely the stability of the earth and the motion of the sun."[20] Galileo adamantly states again later in this deposition that "I do not hold and, after the determination of the authorities, I have not held the condemned opinion," while the Inquisitional trial members were of the opposite opinion due to the tone of the *Dialogue*.[21] The deposition continues, with more requests from the inquisitional members for the truth, and more reaffirmations that Galileo never held the said opinion.



39) Car. 455r.-455v. — Autografo la firma di Galileo.

Die Martis 21 Iunii 1633.

Constitutus personaliter in aula Congregationum palatii S.i Officii Urbis, coram adm. R. P. Commissario generali Sancti Officii, assistente R. D. Procuratore fiscali, in meique etc.,

Galileus de Galileis Florentinus, de quo alias, cui delato iuramento veritatis dicendae, quod tactis etc. praestitit, fuit per D.

Int.s: An aliquid si occurrat ex se dicendum.

R.t: Io non ho da dire cosa alcuna.

Int.s: An teneat vel tenuerit, et a quanto tempore citra, solem esse centrum mundi, et terram non esse centrum mundi et moveri etiam motu diurno:

R.m: Già molto tempo, cioè avanti la determinatione della Sacra Congregatione dell'Indice e prima che mi fusse fatto quel precetto, io stavo indifferente et havevo le due opinioni, cioè di Tolomeo e di Copernico, per disputabili, perchè o l'una o l'altra poteva esser vera in natura; ma dopo la determinatione sopradetta, assicurato dalla prudenza de' superiori, cessò in me ogni ambiguità, e tenni, si come tengo ancora, per verissima et indubitata l'opinione di Tolomeo, cioè la stabilità della terra et la mobilità del sole.

Et si dicto, quod ex modo et serie quibus in libro ab ipso post dictum tempus typis mandato tractatur et defenditur dicta opinio, imo ex eo quod scripserit et dictum librum typis mandaverit, praesumitur ipsum dictam opinionem tenuisse post dictum tempus; ideo dicat libere veritatem, an illam teneat vel tenuerit;

R.m: Circa l'havere scritto il Dialogo già publicato, non mi son mosso perchè io tenga vera l'opinione Copernicana; ma solamente stimando di fare benefitio commune, ho esplicate le raggioni naturali et astronomiche che per l'una e per l'altra parte si possono produrre, ingegnandomi di far manifesto come nè queste nè quelle, nè per questa opinione nè per quella, havessero forza di concludere demostrativamente, e che perciò per procedere con sicurezza si dovesse ricorrere alla determinatione di più sublimi dottrine, si come in molti e molti luoghi di esso Dialogo manifestamente si vede. Concludo dunque dentro di me mede-

38. 8. Pretera — 10. haereticae —

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[Figure 9] Galileo's Fourth Deposition, June 21, 1633

Galileo's sentencing on June 22, 1633, reaffirms that the Inquisitional members did not believe his testimony. They claimed that in "the same book [the *Dialogue*] you have defended the said opinion already condemned and so declared to your face, although in the said book you try by means of various subterfuges to give the impression of leaving it undecided and labeled as probable," that he

Figure 31: Narcissistic Tendencies Continued

[Figure 10] Galileos Sentencing, June 22, 1633

did believe in the Copernican theory.[22] The final sentence was determined by "the things deduced in the trail and confessed by you as above, have rendered yourself according to his Holy Office vehemently suspected of heresy."[23] Galileo was advised that he would be absolved from the censures and penalties imposed against "such delinquents" if he "abjure[s], curse[s], and detest[s] the above mentioned errors and heresies," thereby allowing the Inquisition to reduce his sentence and save face for the Holy Office and the Grand Duke.[24]

Galileo abjures on June 22, 1633, as instructed and his book, the *Dialogue*, was put on the Index and prohibited from being printed or owned until 1744 under a decree given by Pope Benedict XIV.[25] Galileo was also sentenced to prison, but it was immediately commuted to house arrest as a favor to the Grand Duke. Other instances during his trial of special favors include that he was never housed in the Inquisitional prison but initially housed with the Florentine Ambassador Niccolini for two months.[26] Once the actual hearings began he was imprisoned for two and a half weeks, but not in a dungeon as other heretics would have been. Galileo "received a suite of three rooms among the chambers of the prosecutors themselves."[27] He was allowed to go to the courtyard for exercise or walks, and a servant, who could come and go freely.[28] He also had meals sent to him from the Ambassador.[29] These special favors and the continued patronage of the Grand Duke even after his condemnation led Galileo to pursue his final publication, the *Discourse on the Two New Sciences*, mentioned in the Ambitious Nature page.

This section dedicated more examples of Galileo's narcissistic trait to show the breadth of the characteristics noted and the lack of all the required characteristics to be considered as a true narcissist with a clinical personality disorder. Many of the traits discussed above and those from the *Type-A Personality* and *Ambitious Nature* sections can, as with all things, have duality. As such, the Patriarchal traits discussed below will highlight this duality and note the complexity of the personality of Galileo in all his endeavors covered thus far.

Figures

Figure 32: Narcissistic Tendencies Continued

[Figure 1] Francesco Villamena, *Galileo Galilei,* 1613, Met Museum, accessed August 14, 2018, https://www.metmuseum.org/art/collection/search/358902?sortBy=Relevance&who=Villamena%2c+Francesco%24Francesco+Villamena&ft=*&offset=0&rpp=20&pos=10.

[Figure 2] Galileo Galilei, *Letter to Federico Cesi*, November 4, 1612, in *Le Opere di Galileo*, vol. XI, ed. Antonio Favaro, no. 792, 425-26, Biblioteca Nationale Centrale Firenze, accessed August 31, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=354814&vis=D#page/438/mode/2up.

[Figure 3] Niccolo Lorini, Letter to Cardinal Sfondrati, February 1615, in *Le Opere di Galileo*, vol. XIX, ed. Antonio Favaro, 298, accessed August 31, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=354826&vis=D#page/308/mode/2up.

[Figure 4] Giovanni Ciampoli, *Letter to Galileo*, February 28, 1615, in *Le Opere di Galileo*, vol. XII, ed. Antonio Favaro, 146, accessed August 31, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=354816&vis=D#page/154/mode/2up.

[Figure 5] Suor Maria Celeste Galilei, *Letter to Galileo,* April 6, 1630, Gal 23 – II, Galileo, I.13, Galilei Galileo, 13, Lettere Familiari, Carta 107r-108v, Biblioteca Nationale Centrale Firenze, accessed August 31, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19389&vis=D#page/212/mode/2up.

[Figure 6] Suor Maria Celeste Galilei, *Letter to Galileo,* October 29, 1623, Gal 23 – II, Galileo, I.13, Galilei Galileo, 13, Lettere Familiari, Carta 39r-40v, Biblioteca Nationale Centrale Firenze, accessed August 31, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19389&vis=D#page/76/mode/2up.

[Figure 7] *Galileo's First Deposition*, April 12, 1633, in *Le Opere di Galileo*, vol. XIX, ed. Antonio Favaro, 336-342, accessed August 31, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=354826&vis=D#page/346/mode/2up, in *The Trial of Galileo: Essential Documents*, trans. by Maurice A. Finocchiaro, (Indianapolis, Indiana: Hackett Publishing Company, 2014), 122-127.

Figure 33: Narcissistic Tendencies Continued

[Figure 8] *Galileo's Second Deposition*, April 30, 1633, in *Le Opere di Galileo*, vol. XIX, ed. Antonio Favaro, 342-44, accessed August 31, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=354826&vis=D#page/346/mode/2up, in *The Trial of Galileo: Essential Documents*, trans. by Maurice A. Finocchiaro, (Indianapolis, Indiana: Hackett Publishing Company, 2014), 128-130.

[Figure 9] *Galileo's Fourth Deposition*, June 21, 1633, in *Le Opere di Galileo*, vol. XIX, ed. Antonio Favaro, 361-62, accessed August 31, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=354826&vis=D#page/346/mode/2up, in trans. by Maurice A. Finocchiaro, *The Trial of Galileo: Essential Documents*, (Indianapolis, Indiana: Hackett Publishing Company, 2014), 133-134.

[Figure 10] *Sentenza e Abiura di Galileo Galilei*, June 22, 1633, Gal. 13 – II, Galileo, I.3, Galilei Galileo, 3, Documenti, Carta 6r-9r, Biblioteca Nationale Centrale Firenze, accessed August 14, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=18220.

Footnotes

[1] *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. (Washington D.C.: American Psychiatric Association, 1994), 658, accessed August 26, 2018, https://justines2010blog.files.wordpress.com/2011/03/dsm-iv.pdf.

[2] *Diagnostic and Statistical Manual of Mental Disorders*, 658.

[3] Robert Raskin and Howard Terry, "A Principal-Components Analysis of the Narcissistic Personality Inventory and Further Evidence of its Construct Validity," *Journal Of Personality And Social Psychology* no. n5 (1988): 890, accessed July 31, 2018, https://eds-b-ebscohost-com.ezproxy.snhu.edu/eds/pdfviewer/pdfviewer?vid=14&sid=a0eda05d-dd9d-482b-b1c7-b128303625ba%40sessionmgr103.

[4] William R. Shea and Mariano Artigas, *Galileo Observed: Science and the Politics of Belief* (Sagamore Beach: Science History Publications, 2006), 45.

Figure 34: Narcissistic Tendencies Continued

[5] Galileo Galilei, *Letter to Federico Cesi*, November 4, 1612, trans. Krystle Lindamood, in *Le Opere di Galileo Galileo*, vol XI. no. 792, 348-49, ed. by Antonio Favaro (Firenze: R. Accademia dei Lincei, 1966), accessed August 11, 2018, https://www.liberliber.it/mediateca/libri/g/galilei/le_opere_volume_xi_carteggio_1611_1613/pdf/le_ope_p.pdf.

[6] Jean Dietz Moss, "Galileo's Letter to Christina: Some Rhetorical Considerations," *Renaissance Quarterly* 36, no. 4 (1983): 547-76, accessed June 11, 2018, http://www.jstor.org.ezproxy.snhu.edu/stable/2860733?pq-origsite=summon&seq=3#page_scan_tab_contents.

[7] Shea and Artigas, *Galileo Observed*, 40.

[8] William R. Shea and Mariano Artigas, *Galileo in Rome: The Rise and Fall of a Troublesome Genius* (Oxford, NY: Oxford University Press, 2003), 61.

[9] Ibid., 64.

[10] Galileo Galilei, *Assayer,* in *The Controversy on the Comets of 1618*, trans. Stillman Drake and C.D. O'Malley (Philadelphia: University of Pennsylvania Press, 1960), 170-71.

[11] Ibid., 170.

[12] Ibid., 170-71.

[13] Dava Sobel, *Letters to Father: Suor Maria Celeste to Galileo 1623-1633* (New York: Walker & Co, 2001), 19.

[14] Ibid., 111.

[15] Maurice A. Finocchiaro, *The Trial of Galileo: Essential Documents* (Indianapolis, Indiana: Hackett Publishing Company, 2014), 124-25.

Figure 35: Narcissistic Tendencies Continued

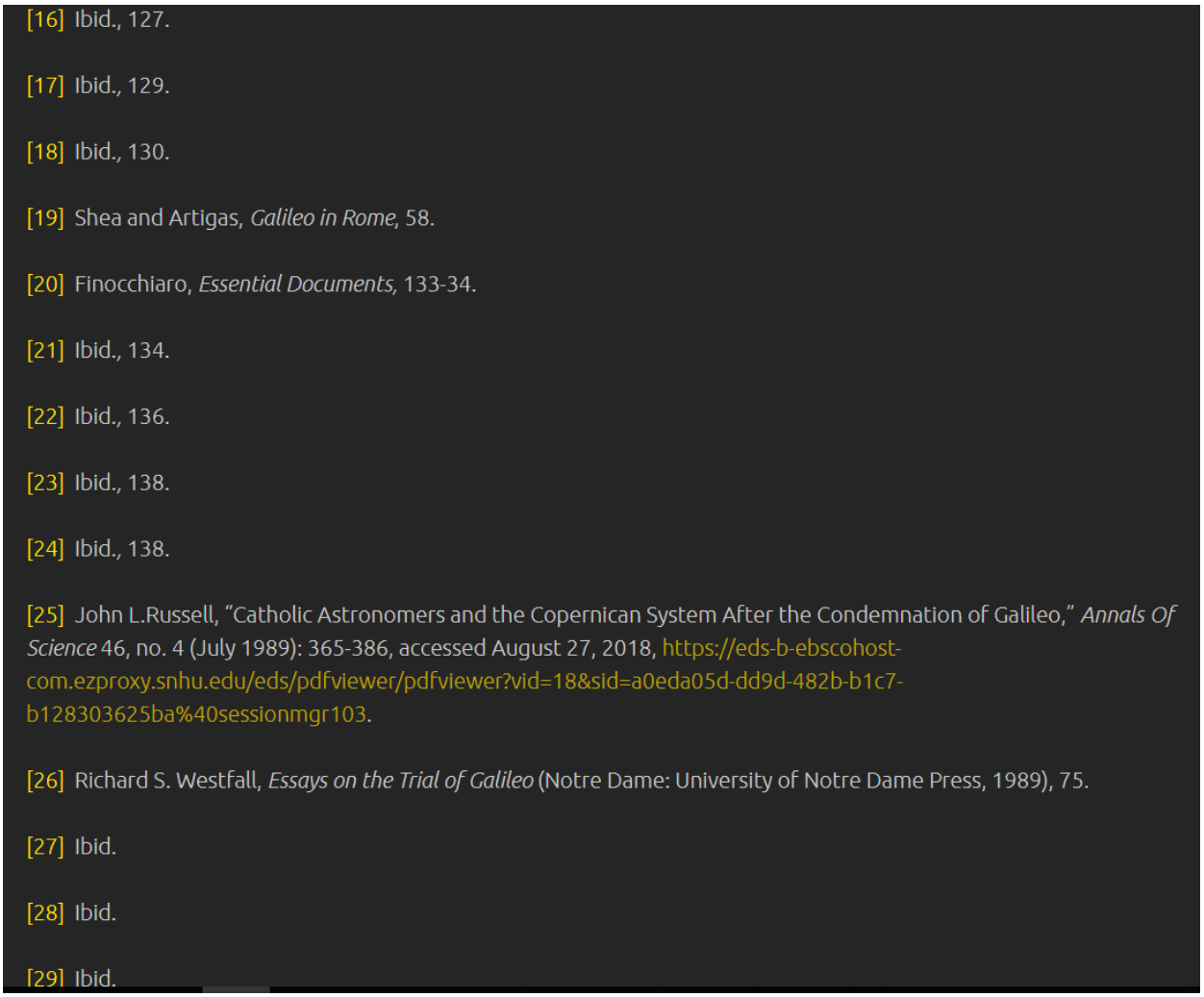
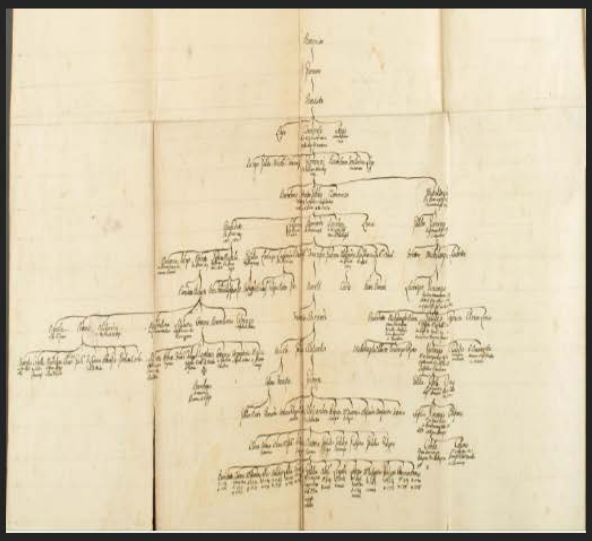


Figure 36: Narcissistic Tendencies Continued

PATRIARCHAL DUTIES



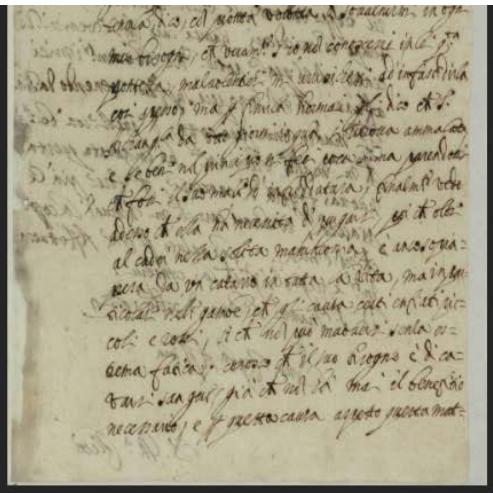
[Figure 1] Galileo Galilei Geneology Tree, ca. 1700

While not necessarily characterized in psychological terms, being a family patriarch does change ones personality and behaviors. Galileo became the head of his family in 1591 when his father Vincenzio died, he was twenty-seven years old. This required for him to provide for his widowed mother and siblings as the oldest male. He had two younger sisters whom he paid dowries for upon their marriages. He supported his younger brother Michelangelo by paying for his schooling, upon his marriage, and continued to support his brother's family when they moved to Germany and after his brother's death in early January of 1630. There were the usual bills for housekeepers, other servants, groceries, personal physicians, and a glassblower (who made the eyepieces for his telescopes), and possibly many others that were unrecorded.

Galileo had three children, two daughters and one son, all born out of wedlock that he provided for. When the two girls, Virginia and Livia, were thirteen and twelve respectively, Galileo obtained a special allowance to allow them to enter a convent before age sixteen and together, as it was not allowed for natural sister to be in the same convent. Their maintenance would incur yearly payments to house both his daughters, Suor Maria Celeste (Virginia) and Suor

Figure 37: Patriarchal Duties

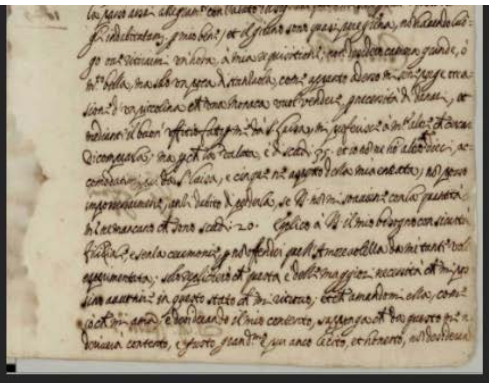
Arcangela (Livia), at the San Matteo convent in Arcetri. Galileo regularly sent his daughters foodstuffs; extra requested money for anything Galileo wished them to make for him, his son, and other family members; bolts of cloth; and paid for his daughter's medical bills for purgatives and bloodletting when they needed the services of a doctor, as Maria was the convents apothecary and could only rely on herbal remedies.[1]



[Figure 2] Letter to Galileo from Suor Maria Celeste, December 10, 1628

Galileo also paid for Maria to move to a larger room, or cell as she referred to it, in the convent at one point upon her request. Maria wrote to her father on July 8, 1629, to ask for this favor, explaining that "the discomfort I have endured ever since I came to live in this house, for want of a cell of my own, I know you know, Sire, at least in part, and now I shall more clearly explain it to you."[2] Maria disclosed how she used to share a room with her sister Arcangela, but gave it to her solely three years prior to help her "distance herself" from one of the convent mistresses who was irritated by Arcangela's "habitual moods," and because Arcangela found

Figure 38: Patriarchal Duties Continued

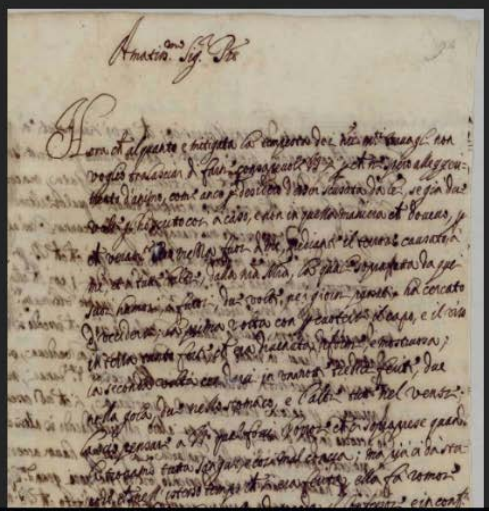


[Figure 3] Letter to Galileo from Suor Maria Celeste, July 8, 1629

"interactions with others unbearable."[3] TTo give Arcangela the room, Maria had to "spend every night in the disturbing company of the mistress…passing the days practically a pilgrim, having no place whatsoever where I can retreat for one hour on my own."[4] Maria does not ask for him to outright purchase the room, as per usual she only asks for what she is unable to provide herself. Her request establishes that she does not:

"yearn for a large or very beautiful quarters, but only for a little bit of space, exactly like the tiny room that has just become available… its price is 35 scudi while I have only ten, which Suor Luisa Kindly gave me, plus the five I expect form my income, I cannot take possession of the room, and I rather fear I may lose it, Sire, if you do not assist me with the remaining amount, which is 20 scudi."[5]

Maria was unable to procure the room at that time through no fault of her own, even though Galileo had sent her the requested 20 *scudi*. In a letter Maria wrote on November 22, 1629, she related how the nun who was selling it had changed her mind and would not accept the previously agreed upon amount. As with any child and their parent, she was afraid to tell him about this for fear he "would get upset."[6] Later in the same letter, she stated that she had used the 20 *scudi* to help out the Mother Abbess who then promised her a different room that cost 120 *scudi* but would give it to her for 80 *scudi*.[7] Maria points out that:



"she [the Mother Abbess] knows full well that I cannot pay a bill of 80 scudi, [and that] she offers to reduce it by the 30 scudi that you gave the convent some time ago, Sire, so that with your consent,

Figure 39: Patriarchal Duties Continued

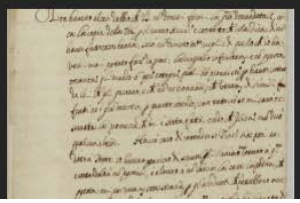
which I see no reason to doubt, as this seems to me an opportunity not to be missed, I will have all that I could ever want in the way of comfort and satisfaction, which I already know is of great importance to you."[8]

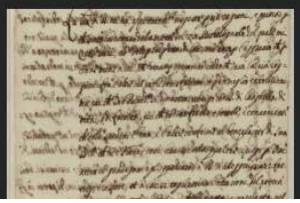
As none of the following letters mention the need for the room again, it is reasoned that she managed to obtain this room as she had desired.

[Figure 4] Letter to Galileo from Suor Maria Celeste, November 22, 1629

[Figure 5] Letter to Galileo from Suor Maria Celeste, November 2, 1630

[Figure 6] Letter to Galileo from Suor Maria Celeste, November 26, 1630



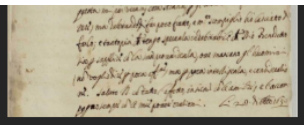


In regards to his son, Galileo would support Vincenzio throughout his life by paying for his schooling, his clothing, pocket money, and helping out with his family once Vincenzio married and had his own children. While Vincenzio was still a teenager, Maria wrote to Galileo on his behalf, demonstrating that Vincenzio was:

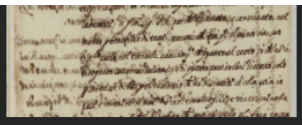
"in desperate want of more collars…[to please send her] a *braccio* [23 inches of cloth] of fine cambric and at least 18 or 20 *lire*, to buy the lace [to make the collars for him] …[and] seeing as Vincenzio has been so obedient to you, Sire, in always wearing his cuffs, I maintain for that reason that he deserves to have handsome ones."[9]

Galileo also took in and raised his grandson, Vincenzio's firstborn son, as we can see from what Maria wrote to Galileo on November 26, 1630. In this letter, she asks

Figure 40: Patriarchal Duties Continued



[Figure 7] Letter to Galileo from Suor Maria Celeste, October 28, 1630



[Figure 8] Letter to Galileo from Suor Maria Celeste, March 11, 1630

after the health of her nephew, whom she refers to as Galileino for he is the namesake for Galileo, who was left in Galileo's care when Vincenzio fled Florence during one of the outbreaks of the plague.[10] Vincenzio had fled during October as remarked upon in Maria's October 28, 1630 letter to her father, with his pregnant wife Sestilia to Prato, just outside Florence.[11] She considered his flight to be a "rash act," leaving Galileo's home "unguarded… considering all the mishaps that could occur," that could include burglary.[12]

Maria also entreated her father to help Vincenzio earn an income in a letter she wrote on March 11, 1630; the same letter where she relays her condolences on her Uncle Michelangelo's death, mentioned above. She persuades her father that if he "had some expedient for Vincenzio, then, by his earning an income, your difficulties and expenses would be lightened, Sire, while at the same time his opportunities for complaining could be curtailed…endeavor to put your own son first ahead of all these others; I speak of finding a means to ease his way."[13]

Galileo also provided for a few of his nieces dowries, or entrances into convents, and regularly helped other nuns in the San Matteo convent. Maria writes to Galileo on September 6, 1629, asking about how "La Lisabetta is faring, and if she wants anything from us," because Galileo was paying for this younger girls boarding at the San Matteo Convent.[14] She was not yet a nun and had been moved to Galileo's residence to be treated for an illness at this point in time.[15] Another letter from Maria, dated January 21, 1629, reminds Galileo that "Suor Brigida reminds you of the favor you promised her, namely the dowry for that poor young girl," who is not mentioned in the letter by name, but is not the previously named La Lisabetta[16] In a letter from Maria written on May 23,

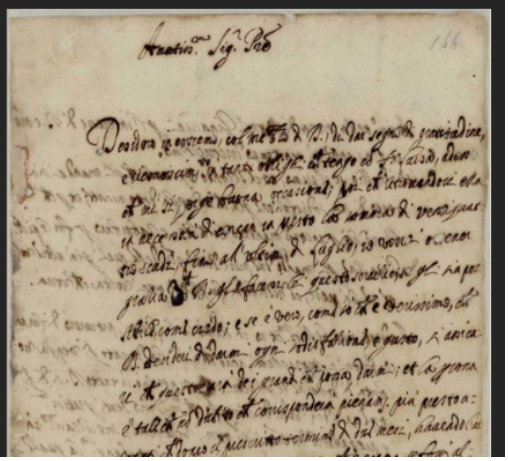
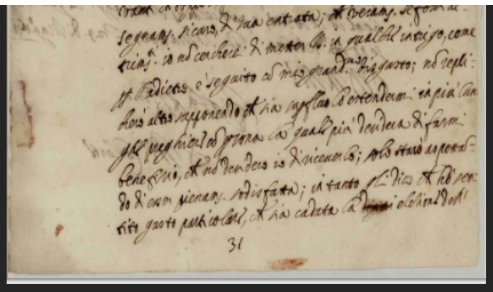


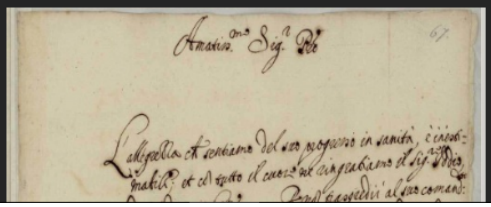
Figure 41: Patriarchal Duties Continued

1631, she asks her father to help Suor Luisa "as a sign of gratitude and recognition for all of my indebtedness" to her.[17] Luisa owed 24 *scudi*, and Maria asked her father to help pay this with the promise that it would be paid back within two months.[18]



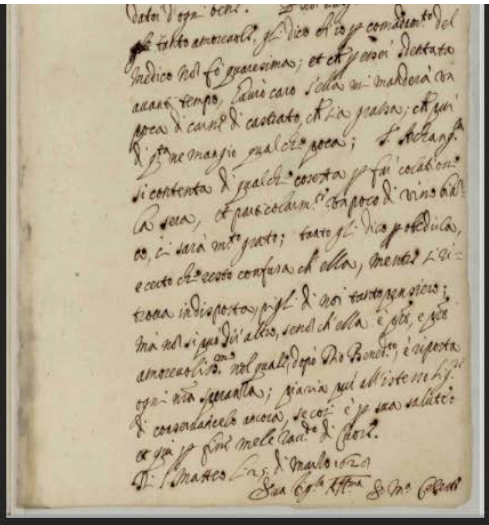
[Figure 9] Letter to Galileo from Suor Maria Celeste, September 6, 1629

Galileo's chosen profession of that of the mathematician did not make enough money to provide for this many financial responsibilities. Galileo's courtly stipend of one thousand *scudi* per year was stretched pretty thin at all times. To provide for all these financial obligations, Galileo went so far as to become a clerical member of two canonries near the end of his life, earning him an extra 100 *scudi* per year.[19] The second canonry was taken upon himself only after failed attempts to successively *transfer* it to his son Vincenzio, his nephew Vincenzio, and his grandson Galileo to provide them with a steady income source. Neither of these postings required Galileo to be present at either canonry or perform any services there. While the Pope was his patron, he was also accorded another 60 *scudi* annually. Galileo also had what we would call today as a "side hustle," where he sold his military compass and telescopic invention for 250 Florins each.[20] He also boarded students he tutored during his early years before Cosimo II became his official patron, and after his condemnation.[21]



Even though many of his pursuits can be perceived as a result of financial need, it does not detract from his honest displays of perpetual concern for his family members, as evidenced through letters from his daughter Suor Maria Celeste, wherein he constantly finds the means to provide for her every request, however great or

Figure 42: Patriarchal Duties Continued



[Figure 10] Letter to Galileo from Suor maria Celeste, March 25, 1628

small. Maria expressed her appreciation and love for Galileo's thoughtfulness in a letter dated March 25, 1628, confessing that she could not "fathom how you manage, even now while you find yourself indisposed, to think so much of us and our needs; but there is nothing to be said about it except that you are our father, our most tender, loving father, upon whom, after blessed God, we rely for our every hope."[22]

Galileo always sent fresh foods to his daughters at the San Matteo Convent in Arcetri, and was able to use his influence as a patron and as a preferred client to obtain her convent the services of a confessor. Maria wrote that:

"she [the Madonna], moved not by passion or self-interest but by sincere zeal, advised me, indeed beseeched me to ask you for something which would undoubtedly be of great use to us and yet very easy for you, Sire, to obtain: that is to implore His Holiness to

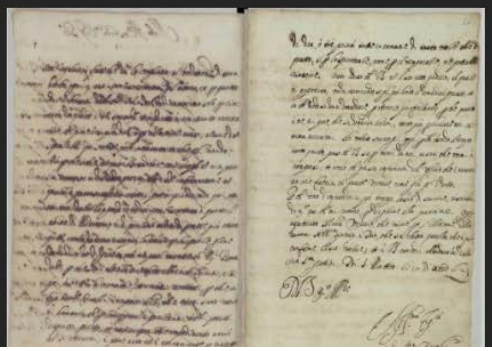
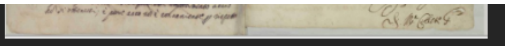


Figure 43: Patriarchal Duties Continued



[Figure 11] Letter to Galileo from Suor Maria Celeste, December 10, 1623

les us have for our confessor a Regular or Brother in who we can confide, with the possibility that he be replaced every three years, as is the custom at convents, by someone equally dependable; a confessor who will not interfere with the normal observances of our Order, but simply let us receive from him the Holy Sacraments."[23]

After reviewing the above examples of Galileo's personal life stressors we can interpret his ambitious qualities in two ways. First and foremost for his own gain, notoriety, and increased social positions. Secondly, we can see it as not only a *want*, but also a *need*, the need to provide for his family. Combining this trait and that of the patriarch with numerous financial responsibilities reveals a different perspective for Galileo's pursual of the Tuscan court position of Mathematician and Philosopher to the Grand Duke. It partly explains why he sought out patrons like Prince Cesi who financed all his publications. It explains that the delay in the printing of the *Dialogue* until 1632 was due to the death of Prince Cesi in 1630, leaving Galileo unable to afford to publish the book alone. This research only scratches at the surface of a full analysis of Galileo's personality traits. More time, research, and collaboration with experts will be necessary to fully evaluate this aspect of the Galileo Affair.

Figures

[Figure 1] *Albero Genealogico della Famiglia Galilei*, Gal. 11 – II, Galileo, I.1, Galilei Galileo, 1,Vita e Documenti, Carta 161v, Biblioteca Nationale Centrale Firenze, accessed August 31, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=18061&vis=D#page/324/mode/2up.

[Figure 2] Suor Maria Celeste Galilei, *Letter to Galileo,* December 10, 1628, Gal 23 – II, Galileo, I.13, Galilei Galileo, Lettere Familiari, Carta 77r-78v, Biblioteca Nationale Centrale Firenze, accessed August 30, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19389.

Figure 44: Patriarchal Duties Continued

[Figure 3] Suor Maria Celeste Galilei, *Letter to Galileo,* July 8, 1629, Gal 23 – II, Galileo, I.13, Galilei Galileo, 13, Lettere Familiari, Carta 88r-89v, Biblioteca Nationale Centrale Firenze, accessed August 30, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19389&vis=D#page/176/mode/2up.

[Figure 4] Suor Maria Celeste Galilei, *Letter to Galileo,* November 22, 1629, Gal 23 – II, Galileo, I.13, Galilei Galileo, Lettere Familiari, Carta 94r-95v, Biblioteca Nationale Centrale Firenze, accessed August 30, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19389.

[Figure 5] Suor Maria Celeste Galilei, *Letter to Galileo,* November 2, 1630, Gal 23 – II, Galileo, I.13, Galilei Galileo, Lettere Familiari, Carta 129r-130v, Biblioteca Nationale Centrale Firenze, accessed August 30, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19389.

[Figure 6] Suor Maria Celeste Galilei, *Letter to Galileo,* November 26, 1630, Gal 23 – II, Galileo, I.13, Galilei Galileo, Lettere Familiari, Carta 134r, Biblioteca Nationale Centrale Firenze, accessed August 30, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19389.

[Figure 7] Suor Maria Celeste Galilei, *Letter to Galileo,* October 28, 1630, Gal 23 – II, Galileo, I.13, Galilei Galileo, 13, Lettere Familiari, Carta 127r-128v, Biblioteca Nationale Centrale Firenze, Accessed August 30, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19389.

[Figure 8] Suor Maria Celeste Galilei, *Letter to Galileo,* March 11, 1630, Gal 23 – II, Galileo, I.13, Galilei Galileo, 13, Lettere Familiari, Carta 101r-102v, Biblioteca Nationale Centrale Firenze, accessed August 30, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19389.

[Figure 9] Suor Maria Celeste Galilei, *Letter to Galileo,* September 6, 1629, Gal 23 – II, Galileo, I.13, Galilei Galileo, Lettere Familiari, Carta 90r-91v, Biblioteca Nationale Centrale Firenze, accessed August 30, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19389.

Figure 45: Patriarchal Duties Continued

[Figure 10] Suor Maria Celeste Galilei, *Letter to Galileo,* March 25, 1628, Gal 23 – II, Galileo, I.13, Galilei Galileo, 13, Lettere Familiari, Carta 67r-68v, Biblioteca Nationale Centrale Firenze, accessed August 30, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19389.

[Figure 11] Suor Maria Celeste Galilei, *Letter to Galileo,* December 10, 1623, Gal 23 – II, Galileo. I.13, Galilei Galileo, Lettere Familiari, Carta 43r-46v, Biblioteca Nationale Centrale Firenze, accessed August 14, 2018, https://bibdig.museogalileo.it/Teca/Viewer?an=19389.

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[1] Dava Sobel, *Letters to Father: Suor Maria Celeste to Galileo 1623-1633* (New York: Walker & Co, 2001), 73.

[2] Ibid., 85.

[3] Ibid., 85.

[4] Ibid., 85.

[5] Ibid., 85.

[6] Ibid., 95.

[7] Ibid., 95.

[8] Ibid., 95-97.

[9] Ibid., 15.

[10] Ibid., 141.

Figure 46: Patriarchal Duties Continued

[11] Ibid., 131.

[12] Ibid., 131.

[13] Ibid., 159-161.

[14] Ibid., 89.

[15] Ibid., 89.

[16] Ibid., 105.

[17] Ibid., 177.

[18] Ibid., 177.

[19] William R. Shea and Mariano Artigas, *Galileo in Rome: The Rise and Fall of a Troublesome Genius* (Oxford: Oxford University Press, 2003), 131.

[20] Mario Biagioli, *Galileo's Instruments of Credit: Telescopes, Images, Secrecy,* (Chicago: University of Chicago Press, 2006), 7.

[21] Ibid., 6.

[22] Sobel, *Letters to Father*, 53.

[23] Ibid., 27.

Figure 47: Patriarchal Duties Continued

Figure 48: Correspondent Biographies

[Figure 1] Pope Urban VIII (Maffeo Barberini), 1627

Roberto Bellarmino was born into a noble family in Montepulciano, Tuscany in 1542. He joined the Jesuit order in 1560 and began his studies at the Collegio Romano in Rome. He taught theology at this same college between 1576-1588 and served as the papal theologian in 1597. In 1599 he was promoted to the rank of cardinal, holidng many positions in the Roman Congregation and multiple other commissions. He became involved in the 1616 Copernican controversy only after correspondence with Galileo, asking for clarification as a eminent scholar on theology as to what could and could not be written on this subject. Bellarmine also gave Galileo the infamous 1616 precept just prior to the condemnation of Copernican theorems that same year. This precept was used as evidence in Galileo's 1633 trial. Bellarmine died in 1621 and therefore could not be called as a witness in Galileo's trial in 1633.[2]

Figure 49: Correspondent Biographies Continued

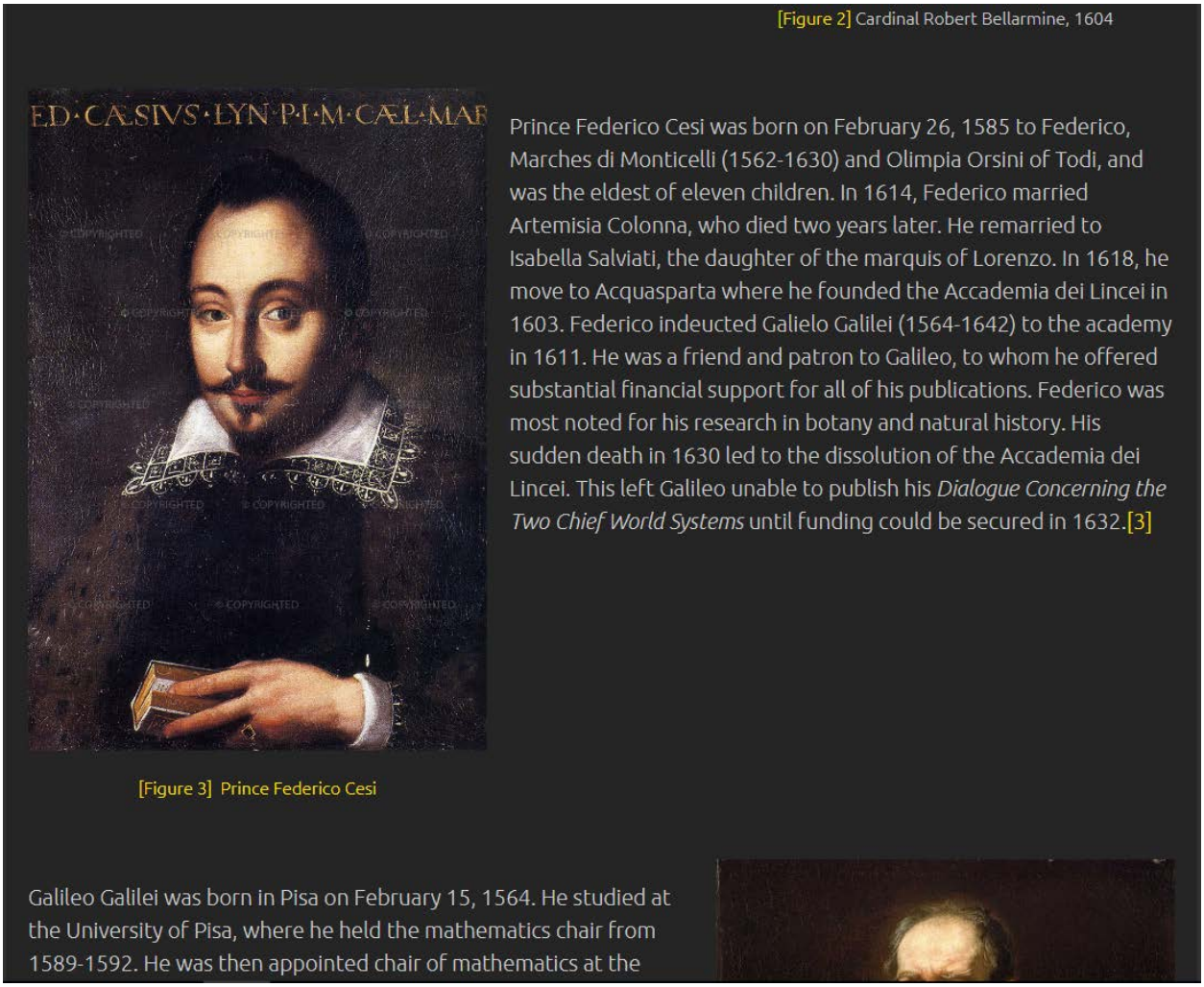


Figure 50: Correspondent Biographies Continued

University of Padua, where he remained until 1610. In 1609, Galileo modified the lenses and design of a telescope and pointed it towards the sky. He saw that Jupiter had moons and dedicated this discovery to the Grand Duke of Tuscany, who in 1610 appointed Galileo as the court mathematician and philosopher. Galileo also used the telescope to observe the phases of Venus, see the landscape of our moon, and to observe sunspots. In 1616, Galileo was admonished by Cardinal Roberto Bellarmino (1542-1621) and ordered to stop advocating and teaching Copernican astronomy, deemed contrary to the teachings of the Holy Scriptures. Galileo then published the *Assayer* in 1623, and the *Dialogue* in 1632, wherein both he advocates the Copernican astronomy. In October 1632, he was condemned by the Holy Office in Rome and forced to recant the Copernican theory. In 1633 he was placed under house arrest at his villa in Arcetri. In 1638, the now blind Galileo published his last and most influential work, the *Discourses and Demonstrations on Two New Sciences*. Galileo died in Arcetri on January 8, 1642.[4]

[Figure 4] Galileo Galilei, 1636

Suor Maria Celeste was born August 16, 1600 to Galileo Galilei and Marina Gamba. She was the oldest of Galileo's three children. Her birth name was Virgina, she was born out of wedlock and therefore unamarriable. This required Glaileo to cloister her at the age of 13 along with her younger sister. She was placed in the San Matteo Convent in Arcetri, Italy. Virginia took her vows at the age of 16, taking the name Suor Maria Celeste (as in celestial in honor of her fathers discoveries). In her convent she served as the apothecary. Maria Celeste was a contsant source of support for Galileo. She sent him medicines she made, foodstuffs, and copyied manuscritps for him. There are 124 surviving letters frm her to her father, written

Figure 51: Correspondent Biographies Continued

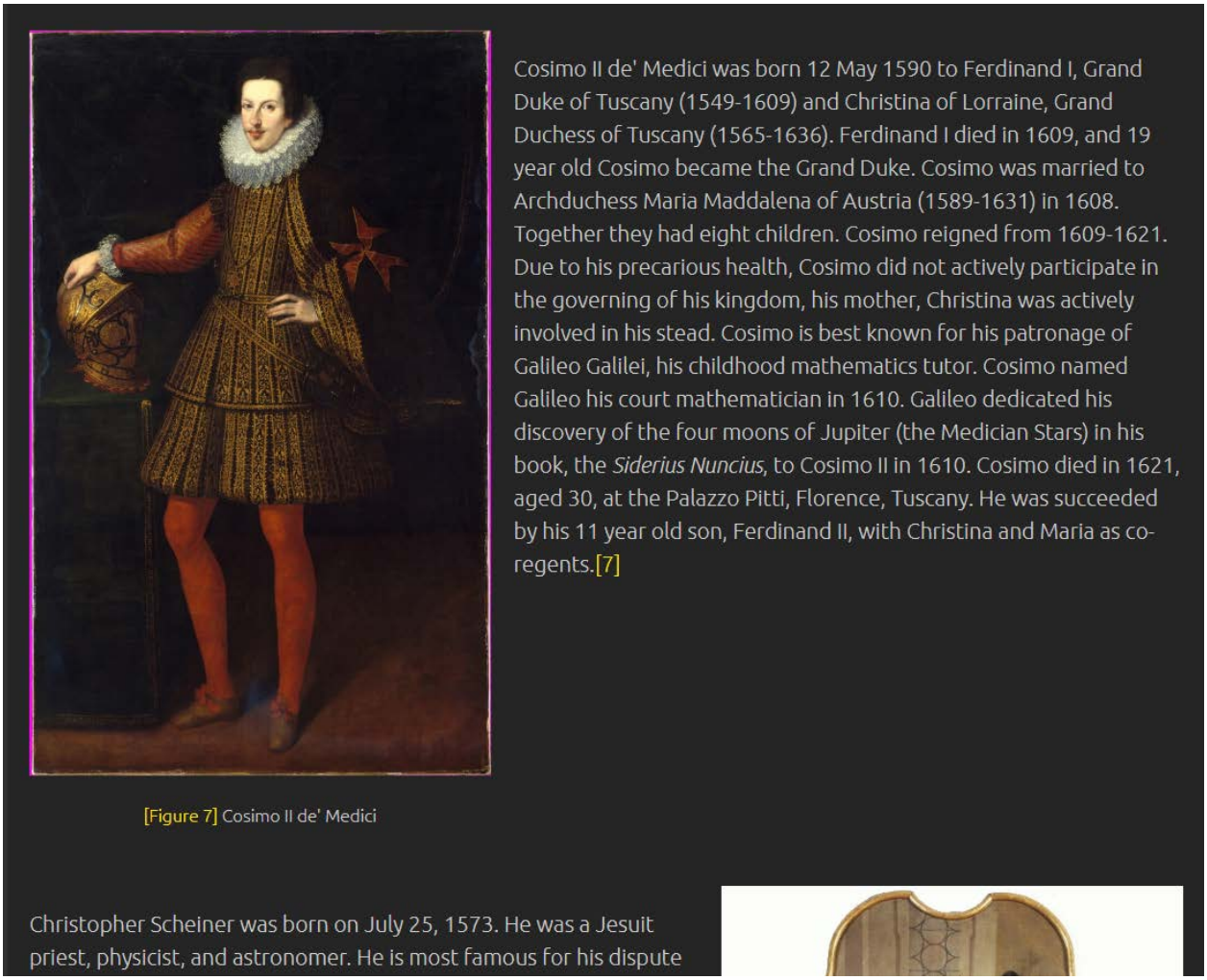
between 1623 to 1633. Maria Celeste died at the age of 33, on April 2, 1634, shortly after Galileo was sentenced to house arrest in his villa in Arcetri.[5]

[Figure 5] Suor Maria Celeste (Virginia Galilei)

Christina di Medici was born on 16 August 1565 to Charles III, Duke of Lorraine (1543-1608), and Claudia, daughter of King Henry II Valois of France (1519-1559). Christina was a devout Catholic, intelligent, and well-educated. She married Ferdinand I de' Medici in 1589, and had five children. After her husbands death in 1609, her 19 year old son Cosimo II became the Grand Duke. Christina remained a dominant force at the court during his short reign. Cosimo II died young, in 1621, leaving his 11 year old son, Ferdinand II, as Grand Duke. Christina and her daughter-in-law (Ferdinand II's mother) Archduchess Maria Maddalena of Austria, became Ferdinand's co-regents. Christina had both her son Cosimo II and grandson Ferdinand II tutored in mathematics by Galileo Galilei (1564-1642) during their youth. Christina is best known for the letter that Galileo addressed to her on the Coeprnican theorems in 1615. She is not as well known for her patronage of the Florentine religious institutions, particularly female monasteries such Monastero di Santa Croce, where unmarried Medici princesses would reside, and that of San Matteo Convent, where Galileo's daughters were nuns. Christina died at the Medici villa in Castello, aged 72, in December 1636.[6]

[Figure 6] Christine of Lorraine (Grand Duchess Christina de' Medici)

Figure 52: Correspondent Biographies Continued



Cosimo II de' Medici was born 12 May 1590 to Ferdinand I, Grand Duke of Tuscany (1549-1609) and Christina of Lorraine, Grand Duchess of Tuscany (1565-1636). Ferdinand I died in 1609, and 19 year old Cosimo became the Grand Duke. Cosimo was married to Archduchess Maria Maddalena of Austria (1589-1631) in 1608. Together they had eight children. Cosimo reigned from 1609-1621. Due to his precarious health, Cosimo did not actively participate in the governing of his kingdom, his mother, Christina was actively involved in his stead. Cosimo is best known for his patronage of Galileo Galilei, his childhood mathematics tutor. Cosimo named Galileo his court mathematician in 1610. Galileo dedicated his discovery of the four moons of Jupiter (the Medician Stars) in his book, the *Siderius Nuncius*, to Cosimo II in 1610. Cosimo died in 1621, aged 30, at the Palazzo Pitti, Florence, Tuscany. He was succeeded by his 11 year old son, Ferdinand II, with Christina and Maria as co-regents.[7]

[Figure 7] Cosimo II de' Medici

Christopher Scheiner was born on July 25, 1573. He was a Jesuit priest, physicist, and astronomer. He is most famous for his dispute

Figure 53: Correspondent Biographies Continued

on the Sunspots with Galileo in 1611. He wrote three letters to a patron of his, Marcus Wesler, to pass along for critique by Galileo under the pseudonymn of *Apelles*. Galileo replied by refuting every conclusion posed by Scheiner. There was an ensuing debate that was published by both men about their theories and claims to who discovered sunspots first. This dispute not only created enenimity between Galileo and Scheiner, but also the rest of the Jesuit community. Scheiner died on June 18, 1650.[8]

[Figure 8] Christopher Scheiner

Marcus Welser was born in 1558 to a patrician family in Augsburg (Germany). Welser was a scholar, lawyer, and a part of Augsburg's Seante as their Council. He was a great patron to the arts and sciences. Weler became Galileo's patron in 1610 when he facilitated the *Susnpot Letters* debates between Glaileo and Christopher Scheiner, another client of Welser's. Welser died in 1614.[9]

Figure 54: Correspondent Biographies Continued

[Figure 9] Marc Welser

Figures

[Figure 1] Pietro da Cortona, *Pope Urban VIII* (Maffeo Barberini), 1627, Collecione Sacchetti, Museo Capitolini, accessed August 31, 2018, http://www.museicapitolini.org/it/percorsi/percorsi_per_sale/pinacoteca_capitolina/sala_pietro_da_cortona_la_pittura_barocca_pietro_da_cortona_e_i_cortoneschi/ritratto_di_urbano_viii.

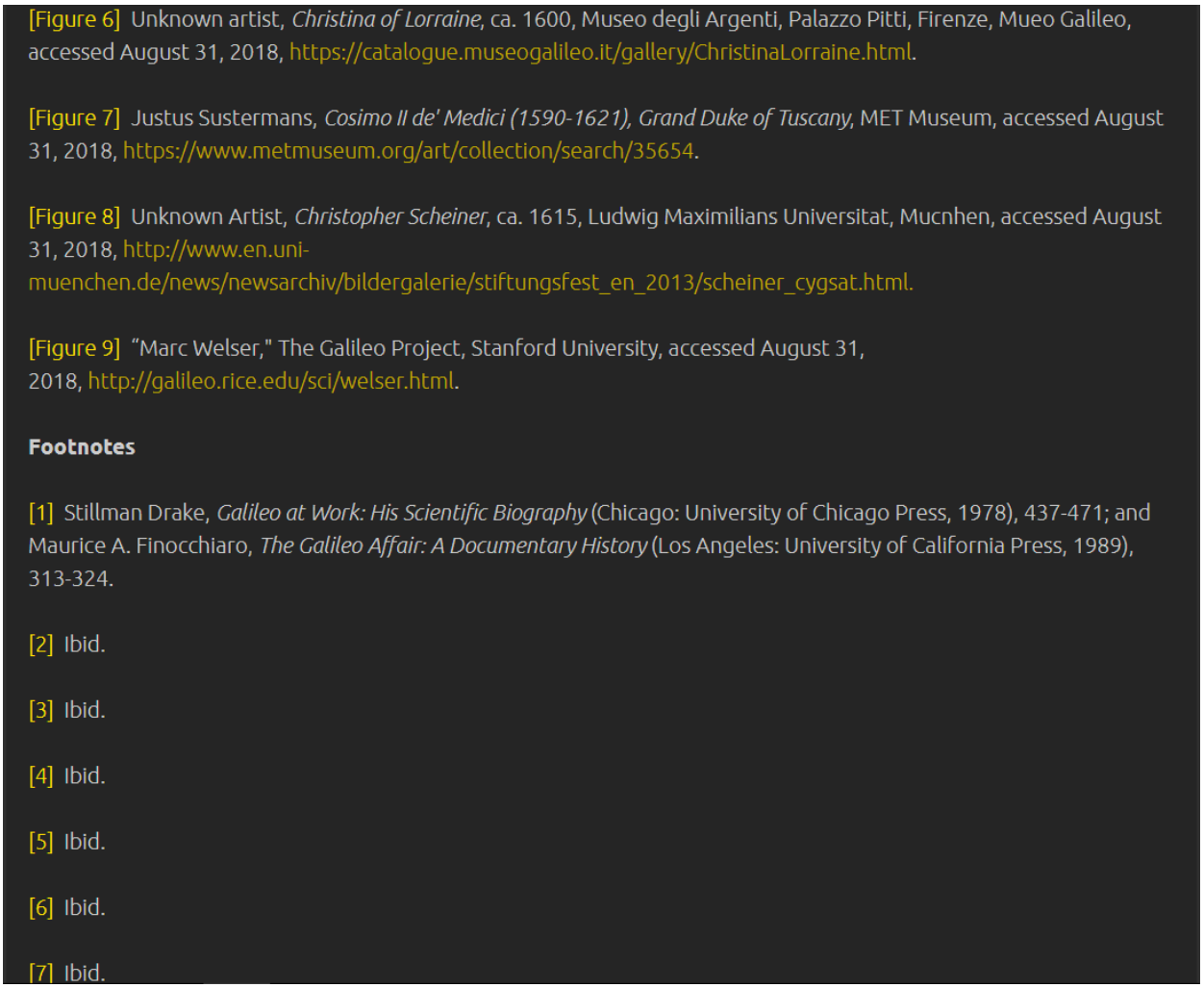
[Figure 2] Francesco Villamena, *Cardinal Robert Bellarmine*, 1604, Met Museum, accessed August 14, 2018, https://www.metmuseum.org/art/collection/search/342371.

[Figure 3] Unknown artist, *Prince Federico Cesi*, ca. 1626, Accademia Nazionale dei Lincei, Roma, accessed August 31, 2018, https://catalogue.museogalileo.it/gallery/FedericoCesi.html.

[Figure 4] Justus Sustermans, *Galileo Galilei,* 1636, National Maritime Museum, Greenwich, London, England, accessed August 14, 2018, http://collections.rmg.co.uk/collections/objects/14174.html.

[Figure 5] Unknown artist, *Suor Maria Celeste Galilei*, ca. 1630, Wellcome Collection, accessed August 30, 2018, https://wellcomecollection.org/works/jpwpy7qd?query=V0017804&wellcomeImagesUrl=/indexplus/image/V0017804.html.

Figure 55: Correspondent Biographies Continued



[Figure 6] Unknown artist, *Christina of Lorraine*, ca. 1600, Museo degli Argenti, Palazzo Pitti, Firenze, Mueo Galileo, accessed August 31, 2018, https://catalogue.museogalileo.it/gallery/ChristinaLorraine.html.

[Figure 7] Justus Sustermans, *Cosimo II de' Medici (1590-1621), Grand Duke of Tuscany*, MET Museum, accessed August 31, 2018, https://www.metmuseum.org/art/collection/search/35654.

[Figure 8] Unknown Artist, *Christopher Scheiner*, ca. 1615, Ludwig Maximilians Universitat, Mucnhen, accessed August 31, 2018, http://www.en.uni-muenchen.de/news/newsarchiv/bildergalerie/stiftungsfest_en_2013/scheiner_cygsat.html.

[Figure 9] "Marc Welser," The Galileo Project, Stanford University, accessed August 31, 2018, http://galileo.rice.edu/sci/welser.html.

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[2] Ibid.

[3] Ibid.

[4] Ibid.

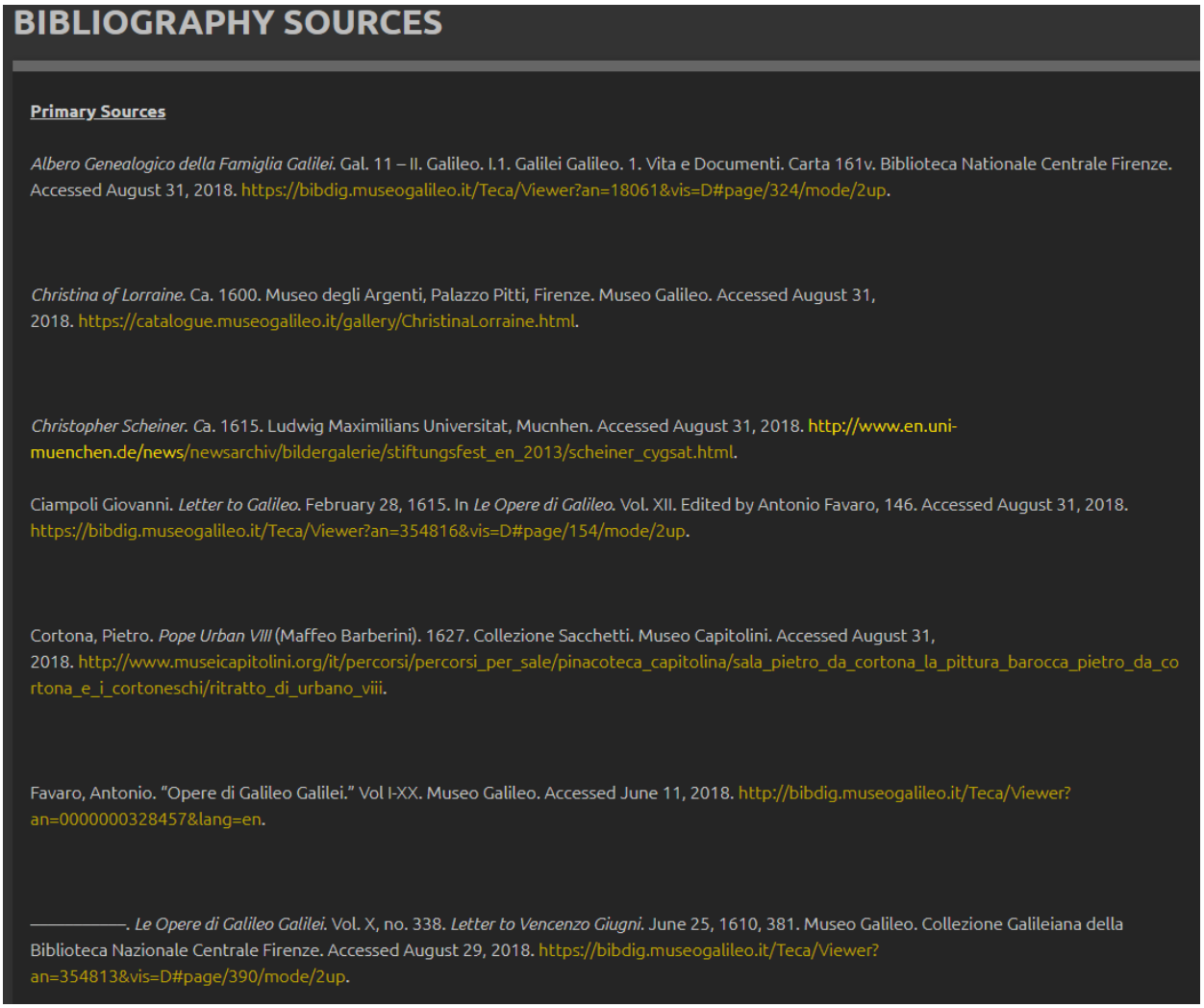
[5] Ibid.

[6] Ibid.

[7] Ibid.

Figure 56: Correspondent Biographies Continued

Figure 57: Correspondent Biographies Continued



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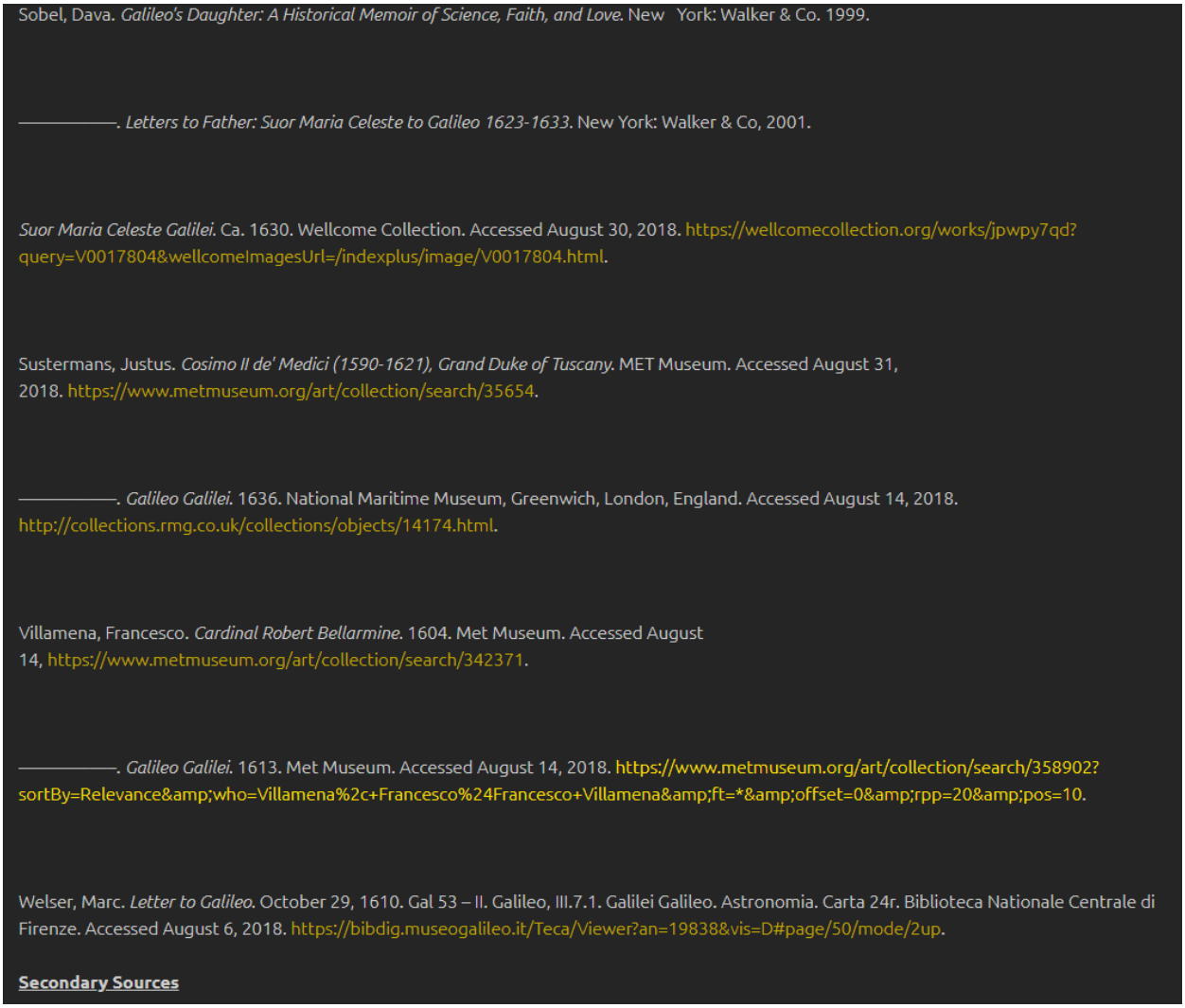
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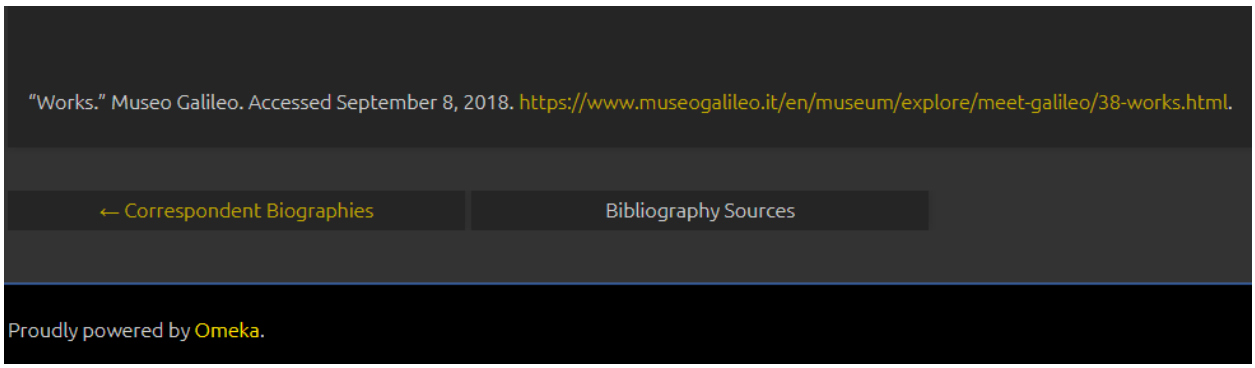

Figure 73: Bibliography Continued

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